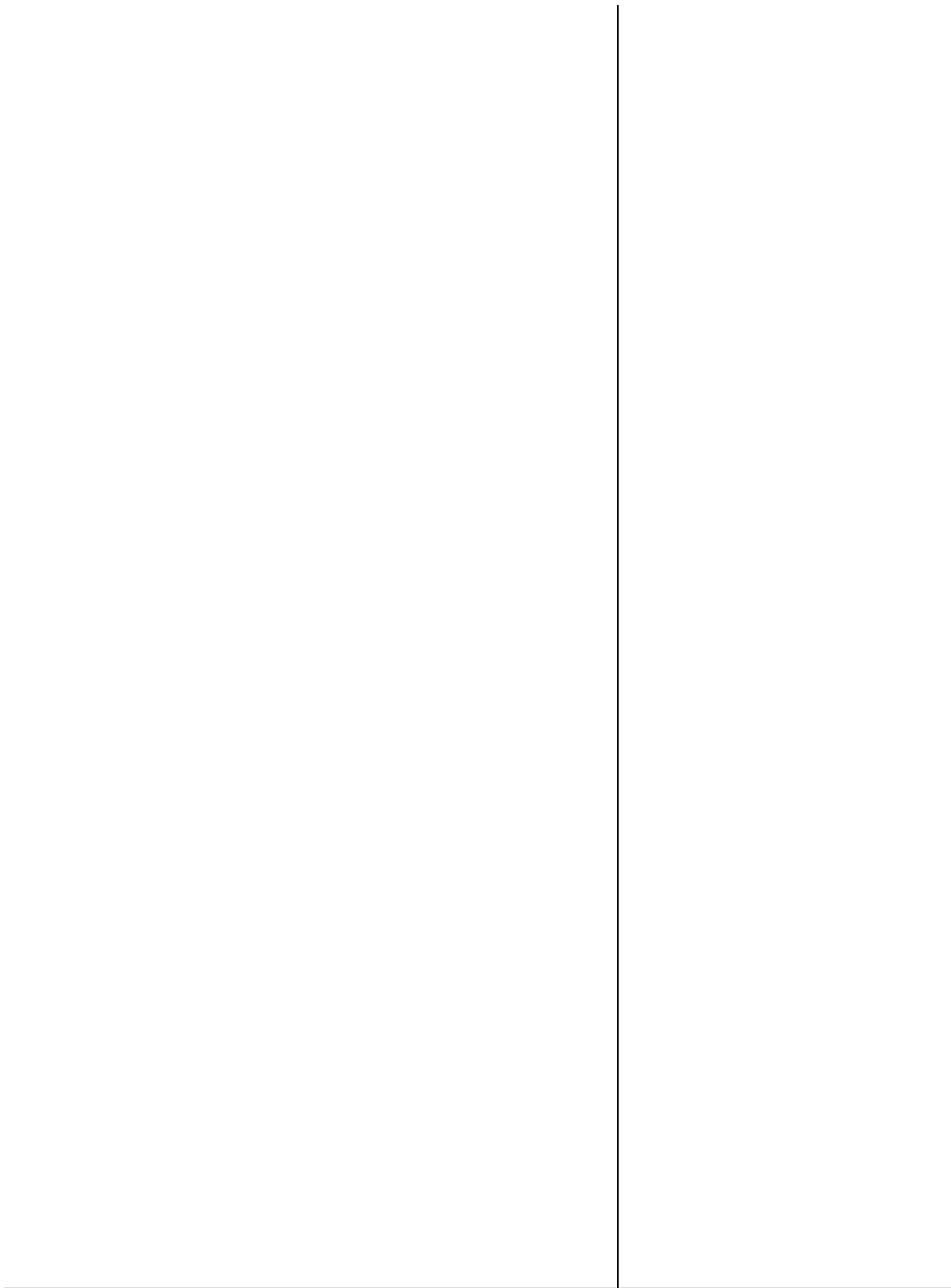


# Town of Amherst

## Open Space and Recreation Plan

2009 Update





## Section 1. Plan Summary

Philosophy .....	1
------------------	---

## Section 2. Introduction

<b>A. Statement of Purpose .....</b>	<b>4</b>
Overview of the Conservation Department and Leisure	
Services and Supplemental Education (LSSE) .....	4
Recent Open Space and Recreation Projects .....	5
<b>B. Planning Process and Public Participation .....</b>	<b>7</b>

## Section 3. Community Setting

<b>A. Regional Context .....</b>	<b>9</b>
<b>B. History of the Community .....</b>	<b>10</b>
<b>C. Population Characteristics .....</b>	<b>11</b>
Population.....	12
Employment .....	16
<b>D. Growth and Development Patterns .....</b>	<b>18</b>
Patterns and Trends .....	18
Infrastructure .....	19
Long-Term Development Patterns .....	21

## Section 4. Environmental Inventory and Analysis

<b>A. Geology, Soils, and Topography.....</b>	<b>27</b>
<b>B. Landscape Character .....</b>	<b>28</b>
<b>C. Water Resources.....</b>	<b>30</b>
Watersheds and Aquifer Recharge Areas.....	30
Surface Water .....	30
Wetlands.....	31
<b>D. Vegetation.....</b>	<b>31</b>
General Inventory.....	31
Forest Land.....	31
Public Shade Trees .....	32
Agricultural Land .....	33
Wetland Vegetation.....	33
Rare Plant Species .....	33
Unique Natural Resources .....	34
Vegetation Mapping Projects .....	35
<b>E. Fisheries and Wildlife.....</b>	<b>35</b>
Inventory .....	35
Vernal Pools .....	36
Corridors for Wildlife Migration.....	37
Rare, Threatened, and Endangered Species .....	38

## Table of Contents



## Table of Contents

<b>F. Scenic Resources and Unique Environments .....</b>	<b>39</b>
Scenic Landscapes.....	39
Unusual geologic features .....	41
Cultural, archaeological, and historic areas .....	42
Unique Environments.....	43
<b>G. Environmental Challenges .....</b>	<b>46</b>
Invasive Exotic Species.....	46
Overuse & Inappropriate Use of Conservation Lands .....	47
Water Quality & Quantity .....	48
Forested Lands and Timber Management .....	50
Environmental Equity Issues.....	51
 <b>Section 5. Inventory of Lands of Conservation and Recreation Interest</b>	
<b>Introduction .....</b>	<b>53</b>
Protected Open Space.....	53
Permanently Protected Open Space .....	54
Partially Protected Open Space .....	57
 <b>Section 6. Community Vision</b>	
<b>A. Description of Process .....</b>	<b>60</b>
<b>B. Statement of Open Space and Recreation Goals .....</b>	<b>61</b>
 <b>Section 7. Analysis of Needs</b>	
<b>A. Summary of Resource Protection Needs .....</b>	<b>62</b>
Local Farming .....	62
Preserved Land.....	63
Watershed Protection .....	65
Trails and Greenways.....	67
<b>B. Summary of Community's Needs.....</b>	<b>68</b>
National Standards (NRPA) .....	69
State Standards (SCORP)—2006.....	70
Leisure Services and Supplemental Education (LSSE) .....	70
<b>C. Management Needs, Potential Change of Use .....</b>	<b>74</b>
 <b>Section 8. Goals and Objectives</b>	
<b>Goals and Objectives.....</b>	<b>77</b>
 <b>Section 9. Seven-year Action Plan</b>	
<b>The Action Plan .....</b>	<b>80</b>
General Action Items .....	84



## Table of Contents

### Section 10. Public Comments

<b>Public comments.....</b>	<b>96</b>
Summary of Public Comments during Planning Process.....	96
Summary of Public Comments on Draft Plan .....	97
Review Letters.....	98

### Section 11. References

<b>References .....</b>	<b>104</b>
-------------------------	------------

### List of Tables

Table 1 – Population Growth and Density in Amherst, 1950-2007 .....	14
Table 2 – Amherst Population by Age (2000) .....	14
Table 3 – Amherst Population by Race (2000) .....	15
Table 4 – Language Spoken at Home (2000).....	15
Table 5 – Nativity and Place of Birth (2000( .....	15
Table 6 – Employment Totals by Industry Sector NAICS Code, 2007 .....	16
Table 7 – Largest Employers in Amherst, 2008.....	17
Table 8 – Approved Subdivision Activity – 1985 to 2007.....	23
Table 9 – The number of single and multi-family dwelling permits issued in calendar years 1987-2007: .....	24
Table 10 – Massachusetts Endangered Species Act (MESA) and Federal Status Rare Species .....	38
Table 11 – Scenic and Unique Resources in Amherst .....	39
Table 12 – Protected Lands in Amherst, 2009 .....	54

### List of Maps

- Map 1: Regional Context
- Map 2: Environmental Justice Populations
- Map 3: Zoning
- Map 4: Geology, Soils and Topography
- Map 5: Scenic Resources & Unique Features
- Map 6: Water Resources
- Map 7: Inventory of Lands of Conservation & Recreation Interest
- Map 8: Seven-Year Action Plan



## Appendices

## Table of Contents

Appendix A: ADA Action Plan & 2006 Transition Plan Update

Appendix B: Inventory of Protected Lands

- B-1: Town Conservation Lands
- B-2: Town Parks and Recreation Lands
- B-3: Agricultural Preservation Restriction (APR) Lands
- B-4: Conservation Restriction (CR) Lands
- B-5: Chapter 61 Lands
- B-6: Chapter 61A Lands
- B-7: Chapter 61B Lands
- B-8: Subdivision Open Space
- B-9: School Property
- B-10: Tax Exempt Property

Appendix C: Optional Maps

- C-1: Optional Map A—Historical Development
- C-2: Optional Map B—2000 U.S. Census Population Density
- C-3: Optional Map C—Commercial, Retail and Industrial Zones
- C-4: Optional Map D—Development Stages 1971-2007
- C-5: Optional Map E—1999 Land Use/ Land Cover
- C-6: Optional Map F—Public Transportation Routes
- C-7: Optional Map G—Existing and Proposed Bike Routes
- C-8: Optional Map H—Municipal Water and Sewer Service Extents
- C-9: Optional Map I—Natural Resources
- C-10: Optional Map J—Parks, Open Space, and Recreation Facilities
- C-11: Optional Map K—School Fields and Playgrounds
- C-12: Optional Map L—Tax Exempt Property



## Section 1. Plan Summary

The 2009 Update to Amherst's Open Space and Recreation Plan (OSRP) provides a foundation to guide future policies and actions by examining the Town's need for new or improved conservation areas, recreational facilities, and preserved land. In recent years, Amherst has experienced an increase in large-lot residential development outside the traditional village centers; an intensified use of conservation lands by residents, students and regional populations; and a dwindling of resources to manage Town facilities ranging from conservation trails to sports fields to summer pools.

To help balance the complexity of issues concerning development, land preservation and community needs, this plan provides an assessment of existing conditions and trends in Amherst (Sections 3-5), identifies the community's current open space and recreation goals (Section 6), conservation and recreation needs (Section 7), and objectives (Section 8). A synthesis of the entire plan is presented in Section 9 as a seven-year action plan.

This plan builds upon previous Open Space and Recreation plans; consultation with the Conservation, Planning, and Leisure Services & Supplemental Education (LSSE) Departments; and two years of public outreach through meetings with local residents in addition to various Town boards and committees, in particular the Conservation Commission, LSSE Commission, Select Board and Planning Board. The plan also draws on Amherst's recent Master Planning process that gathered citizen input through surveys, community workshops, online questionnaires, and more. During this public outreach and planning, four significant themes became evident that helped inform the objectives and actions referenced in this plan:

- ❖ Prioritize land preservation efforts.
- ❖ Complete contiguous blocks of farmland and preserved open space.
- ❖ Extend and improve the Town's trail system.
- ❖ Increase opportunities for active recreation.

### ***Philosophy***

Although Amherst has a long history of planning for both recreation and conservation lands, it is important to realize the distinction between preserved land and recreational open space. Preserved land is managed by the Conservation Department to maintain Amherst's natural resources, and may provide for passive recreation and outdoor activities such as hiking and fishing without being dedicated solely to playing fields or formal recreational facilities. Preserved land may include woodlands, pastures, trails or highly



## Section 1. Plan Summary

managed areas. Recreational open space is land set aside for either active recreation such as Ultimate Frisbee, lacrosse, and baseball, or for passive recreation such as picnicking and bird watching. Active recreational open space is typically found on flat, well-drained soils where the turf is managed to maintain a level playing field.

The philosophy of open space and recreation planning and protection in Amherst has therefore been established as follows:

- ❖ Protected land is essential to Amherst's appearance, economy, and well-being. Conservation land helps maintain the town's rural character, provides adequate land area for traditional and modern forms of outdoor recreation, and protects important wildlife habitat for both game and non-game species. Protected farmland provides a permanent base on which present and future farm businesses depend, and helps farm supported (i.e. grain/dairy processing, equipment repairs) businesses maintain a significant presence in Amherst and adjacent towns. Protected land also ensures clean water for wells and reservoirs supplying Town drinking water.
- ❖ Amherst is tremendously diverse in its flora, landscapes, wildlife, and land use. Continued protection of all types of open space and farmland will help maintain that diversity in the face of mounting development pressures.
- ❖ Traditional resource-based economic activities such as agriculture and forestry, and traditional forms of recreation such as fishing and hunting, continue to play major roles in Amherst. The Conservation Commission and Conservation Department need to continue to help keep those traditions and their associated cultural practices viable by working closely with farmers and farmland owners to encourage the farm economy; carrying out ecologically-sound forest and open land wildlife habitat management on Town watershed lands in the three adjacent communities of Belchertown, Pelham, and Shutesbury; and renting out fields for farm production and community gardening.
- ❖ Open space should not just be the land left over after development, but preserved land that is actively planned to contribute to the character and quality of the town's total environment, and to ensure the continued existence of a 'critical mass' of connected land areas needed to sustain traditional resource-based economic activities, recreation, and wildlife.
- ❖ Preserving unprotected open space and farmland in outlying areas of town is one aspect of Amherst's long-established planning goal: to direct new growth toward existing developed centers. This preserves





## Section 1. Plan Summary

- Amherst's historic settlement pattern (village centers separated by open land) and reduces the need for continual expansion of expensive public utilities and services as well as preventing suburban sprawl.
- ❖ Public conservation land serves as an important amenity for those who do not have sufficient private land of their own on which to recreate and directly experience the outdoors. The provision of conservation land close to home can also keep residents' recreation spending within the local economy – money that might otherwise be spent traveling out of town or out of state to parks, open space, or other distant recreation destinations.
  - ❖ The protection of conservation land and farmland should go hand-in-hand with attention to other town needs, such as the provision of low- and moderate-cost housing; the establishment of adequate playground facilities in existing or growing developed areas; establishment of active recreation sites for sports like Ultimate Frisbee, lacrosse, football, soccer, baseball, and swimming; and the protection and enhancement of historical sites and landscapes.
  - ❖ Amherst's expanding network of conservation lands and trails, and its extensive opportunities for outdoor recreation of all kinds, generates an increasing need to coordinate and fund the management of conservation lands and trail systems with recreation planning and programming.
  - ❖ Emphasis shall be given to the protection of key wetlands, rivers and tributaries, and associated ecosystems to ensure viable habitat, biodiversity, and wildlife corridors. This includes the two major watersheds of the Fort and Mill Rivers that drain Amherst into the Connecticut River, as well as the Lawrence Swamp and key tributaries.
  - ❖ As the resident population of Amherst continues to increase, the number and extent of recreation and open space facilities also needs to increase in order to keep pace with community needs.



## **A. Statement of Purpose**

Amherst has engaged in active planning for open space and recreation since the late 1960's. During most of that time, the majority of the community's efforts at conservation land planning were aimed at acquiring and preserving critical lands such as greenbelts along streams and rivers, wetlands, unique habitats, important wildlife habitat, and prime farmland. Community efforts for recreation focused on maintaining and improving existing facilities (often facilities shared with the schools) for formal, active recreation and team sports—swimming pools, mixed-use ball fields, etc.—with only occasional attempts to acquire new lands and expand capacity.

Amherst's steady growth and changes in the community's complexity are creating new needs and trends that will require a more sophisticated, coordinated approach to the provision of preserved land and recreation resources. To address these concerns, the Town has developed this plan with the following purposes:

- ❖ Identify existing needs and concerns of residents in relation to preserved land and recreation areas.
- ❖ Identify specific goals and objectives that can be achieved through resulting actions the Town will take.
- ❖ Create a Seven Year Action Plan to prioritize open space and recreation projects in order of need and importance.
- ❖ Guide future conservation and planning efforts given Amherst's limited monetary resources.

### ***Overview of the Conservation Department and Leisure Services and Supplemental Education (LSSE)***

The Conservation Department manages 1,828 acres of conservation land, including more than 40 open fields; maintains some 80 miles of foot trails in Amherst and regional trails in Leverett and Shutesbury; has been involved in the acquisition of Agricultural Preservation Restrictions (APR's) that protect over 2,038 acres of farmland; has helped purchase Conservation Restrictions that protect 170 acres; coordinates a Town energy conservation and greenhouse gas emission reduction program; and carries out other related tasks.



## Section 2. Introduction

The mission of the Town of Amherst's Leisure Services and Supplemental Education (LSSE) Department is to cultivate the social, physical, intellectual, and artistic development of children, youth and adults; this department offers the majority of community services as there is no YMCA or similar organization in Amherst. LSSE helps develop, coordinate, and manage the majority of recreational activities, park related activities, and after school programs in Amherst. These activities are offered on a seasonal basis and take place on the seven recreational facilities in town—Mill River Recreation Area, Plum Brook, Community Field, Groff Park, Markert's Pond, Kiwanis Park, and the Cherry Hill Golf Course—as well as at the Bang's Community Center and at the schools. The large population of families, teenagers, and retirees served by LSSE extends well beyond the boundaries of Amherst, as evidenced by their quarterly brochure being direct-mailed to over 12,000 residents in the Pioneer Valley.

### ***Recent Open Space and Recreation Projects***

The Town has accomplished the following open space and recreation projects since 2004:

- ❖ Agricultural Preservation Restrictions (APR's)
  - Hart-Murphy - 42.5 acres
  - North Amherst Community Farm - 34.5 acres. CPA funds
  - Cows APR - 45 acres
  - Tietjen - 28 acres
    - Total Acres Preserved: 150
- ❖ Conservation Purchases
  - Simmons Property - 12.11 acres. Fee acquisition with \$136,000 Self-Help funding
  - Smith Property - 3.6 acres. Fee acquisition with CPA and DCR funding
  - East Leverett Road - 28.6 acres. Fee acquisition with CPA and \$427,000 Self-help funding
    - Total Acres Preserved: 44
- ❖ Gifts
  - Tietjen Property – 17 acres in Lawrence Swamp
- ❖ Conservation Area Improvements
  - Built ADA walkway at Orchard Arboretum Conservation Area
  - Expanded ADA walkway at Larch Hill Conservation Area



## Section 2. Introduction

- ❖ Public Parks
  - Received a gift of the 3.6 acre Kendrick Park
- ❖ Recreation Activity
  - Expanded the Town's recreation and associated educational programs through the LSSE Department.
  - Increased program opportunities for special needs populations.
  - Addition of new programs for teen populations.
  - Explored alternative funding sources through grants, donations, gifts, and partnerships (targeted to recreation).
  - Increased advertisement and public awareness of existing leisure services, parks, and recreational facilities in Amherst.
  - Accepted full management responsibility for the Cherry Hill Golf Course, a 66-acre 9-hole community course.
  - Identified and planned for the acquisition of open spaces which are of value and importance for active or passive recreation.
- ❖ Recreation Areas
  - Groff Park
    - Construction of restroom facility - 2007
  - Kiwanis Park
    - New multipurpose field - 2004
    - New softball field - 2005
  - Mill River Recreation Area
    - Renovated basketball courts - 2004
  - Plum Brook Recreation Area
    - Renovated fields - 2007
    - Added parking lot for 100 additional vehicles – 2007
- ❖ Other
  - Expanded Town trail system with the addition of four miles of trails, such as the new trail section in the Mill River Conservation Area; improved a section of the Brickyard Trail for bicycle use; and extended the Robert Frost Trail to create more access points near residential neighborhoods.
  - Established a new GIS mapping system and online GIS Viewer, allowing the public an opportunity to interact with and download maps for such things as mapping a hiking route or locating recreational fields.



## B. Planning Process and Public Participation

## Section 2. Introduction

This 2009 update is the distillation of several prior drafts, meetings, and surveys dating back to 1995 with the last accepted plan by the Massachusetts Division of Conservation Services (DCS). The public outreach portion of this update process began in spring 2007 with the establishment of a team from the Conservation and Planning Department and the Leisure Services and Supplemental Education (LSSE) Department, and coincided with a significant public outreach campaign conducted as part of the community's recent master planning process. The team benefitted from working with the Open Space and Recreation (OSRP) Work Group, a subcommittee of the Comprehensive Planning Committee that used extensive public comments and input to help inform Amherst's draft Master Plan. The recommendations of the OSRP Work Group have been incorporated into this plan.

The public outreach and participation, spanning almost two years, includes two concentrated series of public meetings. The first series, in conjunction with the master planning process, included five public meetings held between June and November, 2007, while the second series focused solely on the Open Space and Recreation Plan and included six public meetings between March and May, 2009. At these meetings participants reviewed open space and recreation maps, discussed the community's goals and objectives, and provided staff with recommendations. Specific community groups invited to participate included the:

- Agricultural Commission
- Conservation Commission
- LSSE Commission
- Department of Public Works
- Planning Board
- Comprehensive Planning Committee work groups
- Historical Commission
- Community Preservation Act Committee
- Select Board
- Sports Leagues

Representatives from other towns and organizations, and non-affiliated community members were also invited to attend these meetings, including: students from the colleges, parents of young children, and members of local Land Trusts. Various activities designed to gather thoughts and ideas were used at these meetings, including an exercise where participants were asked to identify priority parcels by placing colored dots on a map that represented good or bad areas; break out groups; and question and answer sessions. Meetings were held at various locations across town and at different times (weekends, evenings, and during the day) as a means of attracting a wide audience. During the Master Planning process an informational survey was mailed to a random selection of almost 700 residents to gather opinions and suggestions about various topics related to the community. Instructions for



## Section 2. Introduction

this survey, in addition to English, included translations in Spanish, Khmer, Vietnamese, and Chinese informing those who needed a translator to contact the ESL center at the Jones Library. This measure ensured that significant minority populations in Amherst could complete the survey.

In order to reach residents who could not attend the meetings, an Open Space and Recreation Plan webpage was hosted on the Town's website from March to June, 2008 and from February to June, 2009. Newsflashes and other media were used to direct the community to the webpage, which included the individual text sections of the report, relevant maps, and an online comment-form so that suggestions and opinions could be submitted electronically to the Conservation Department. The Department also welcomed comments in writing, by phone or through email.

In addition to the recommendations from the various boards and committees, this plan was developed by David Ziomek, Director of Conservation and Development, Linda Chalfant, LSSE Director, Jonathan Tucker, Planning Director, Niels LaCour, former Senior Planner, Nathaniel Malloy, Associate Planner, and Alicia Johnson, former Conservation Intern. Mapping assistance was provided by Michael Olkin, GIS Coordinator, and Mr. Malloy.



## **A. Regional Context**

(See Map 1: Regional Context)

Amherst is a unique community combining the history and traditions of a rural New England town with the urban amenities and cultural vitality of a major center for higher education. Amherst offers countless opportunities to enjoy the peace and beauty of abundant natural resources and outdoor recreational activities. From any developed center or neighborhood in Amherst, it is only a few minutes' walk to the fields or the woods.

The town comprises roughly 28 square miles on the eastern side of the Connecticut River Valley, just under 100 miles due west of Boston. Agricultural land occupies much of the northern, eastern, and southern portions of town, continuing west into the Town of Hadley and northwest into the Town of Sunderland. The Mount Holyoke Range at the south end of town makes a natural barrier between Amherst and the towns of South Hadley and Granby. The Pelham Hills rise to the east toward the Quabbin Reservoir, and the Leverett-Shutesbury hills rise to the north and northeast.

The Town's water supply comes from reservoirs in Shutesbury and Pelham, which share some of the surface water, and from town wells in the Lawrence Swamp Aquifer in Belchertown and South Amherst. Amherst works closely with those towns in jointly protecting both surface and underground drinking water supplies.

Amherst is currently both a college community and an agricultural town, and has a history of small-scale mercantile and industrial activity. From the colonial origins of the town to the founding of the Massachusetts Agricultural College in 1863 (later Massachusetts State College and then the University of Massachusetts), agriculture has been an important element in shaping the community's economic and landscape character. The University, Amherst College, and Hampshire College provide much of the employment in town and occupy 30 percent of the land base. Some of the recent residential development in town serves University expansion and employees of the U.S. Fish and Wildlife Service in nearby Hadley.

Amherst's preserved land base has a regional significance that extends well beyond town lines, given the abundance of agricultural land, trail connections, wildlife corridors, watershed areas, and recreation fields shared with neighboring communities. The need for cooperative preservation of land for open space, recreation, and agricultural activities is important to the region and the community's future. To protect and enhance their value will require short-term action and ongoing management.





## **B. History of the Community**

Originally, the land that would become Amherst was part of the 1661 Hadley Plantation with a northern boundary at Swampfield (Sunderland-Leverett) established in 1673. It was established and divided as Hadley's Outward Commons in 1703, with an eastern boundary established in 1713 at Equivalent Lands (Belchertown-Pelham). In 1734, it was formed as Hadley's Third Precinct and incorporated as the separate district of Amherst in 1759 with the southern boundary being established along Bay Road at the base of the Mount Holyoke Range. At this time, the community was named by Bay Colony Governor Thomas Pownall for General Jeffery Amherst, a popular British general in the French and Indian War. Amherst began functioning as a town in 1775, but was not incorporated as an official Massachusetts town until 1786, after the Revolutionary War.

Located on the edge of the central uplands and the Connecticut River Valley, Amherst developed as a mercantile and agricultural district, later becoming an important college center. Distinct village centers developed during the Federal Period in North Amherst, West Amherst, East Amherst, and South Amherst, and remain important business centers today. Gristmills, sawmills, cotton and woolen mills, wood plane manufactories and numerous other small industries developed along Amherst's numerous streams and small rivers. In each center, a landmark Neo-Classical church and stately houses were constructed, many of which are well preserved today.

During the early 19th century, significant development of Amherst Center took place, including the establishment of Amherst College in 1821. Continued development of the town center occurred as railroad connections during the early industrial period created a depot district along Main Street to East Village which produced palm-leaf and felt hats, leather board, firearms, lamp black, paper and other goods. The town center has continued to thrive with a broad array of shops and many restaurants, cafes, and bookstores. There are a variety of housing options, extensive transit service, and a small but increasing number of technology-based companies that have developed around the University's research and development activities. (See Appendix C-1: Optional Map A—Town of Amherst Historical Development)

Amherst has taken a proactive role in historic and cultural preservation especially within the last 30 years. In 1972, Amherst Town Meeting established the Historical Commission to "preserve, interpret, and advocate for the historic and cultural resources of the town." In 2005 the Amherst Preservation Plan was approved, outlining specific priorities for the next ten years. In 2006 Amherst held one the top five scores in the Commonwealth Capital Program. This reflects the community's creative approach to planning and smart growth, gauging efforts toward the preservation of agricultural land, rural development, housing clusters, and zoning, among others.





## Section 3. Community Setting

Amherst town government has also taken on a central role in the protection of agricultural land and open space with significant help from adjacent towns; state agencies; the Valley Land Fund (3-county conservation land trust) and Kestrel Trust (a 9-town land trust); the Pioneer Valley Planning Commission; larger regional trusts like the American Farmland Trust; and the Silvio O. Conte National Fish and Wildlife Refuge. These efforts have been directed toward the development of a coherent valley-wide system of greenways, protected farmland, and preserved land that functions as wildlife habitat, scenic overlooks, and outdoor recreation land. That system is still very much a mosaic of protected public land and vulnerable private land, with much work remaining to secure the most important farmland blocks, the Mount Holyoke Range, and important natural features like the Eastman Brook watershed in north Amherst and Leverett, Mount Warner in Hadley, Mount Toby in Leverett and Sunderland, and major river watersheds like that of the Mill River (Shutesbury-Leverett-Amherst-Hadley) and the Hop Brook-Fort River (Belchertown-Amherst-Hadley).

### C. Population Characteristics

Because of the University and colleges, Amherst has a highly transitory population, and is a regional center for employment, services, and educational resources. In addition to the traditional level of visitation generated by the University, the colleges, and seasonal ‘leaf-peeper’ tourism, Amherst is also becoming an increasingly important destination for cultural and historical tourism. Attractions such as the Emily Dickinson Museum; the Museum of Natural History and Meade Art Museum at Amherst College; the Eric Carle Museum of Picture Book Art; and the National Yiddish Book Center, have become increasingly popular destinations for people of all ages.

Being a regional destination needs to be seen as an opportunity as well as a burden. Amherst does not have the option of restricting the use of local land resources and facilities to Amherst residents. Planning for conservation and recreation must therefore assume that the community’s resources will have to continue to serve not only the community’s own needs, but those of a wider regional population. People who travel here to use Amherst’s preserved land and recreational facilities spend their money here, stay overnight in Amherst lodging, eat at Amherst restaurants, spend money in Amherst’s retail shops, and so forth. Amherst’s preserved land and recreation resources are a foundation for local economic development.

There is also a growing interest in health and fitness, which demographic trends will make imperative in the foreseeable future. Nationally, the post-WWII Baby Boom population cohort is aging, and their concern for their health and fitness as they age has become, and will remain, a strong trend in the general culture. In addition to the maturation of the local population,



## Section 3. Community Setting

Amherst's unique blend of urban amenities/services and its historic rural character is making it a significant national destination for retirees. Demand for interaction with nature and for organized outdoor and indoor recreation is only going to increase.

The purpose of this section is not simply to restate census information, but to illustrate the unique character of Amherst based on the influence of the colleges; the rising number of LSSE programs and sports leagues; the growing tourism sector; and the need to acquire additional land and facilities to implement conservation and recreation priorities. Demographic factors and statistics have been summarized and are described in the following paragraphs.

### ***Population***

According to the U.S. Census, Amherst's 2007 population (including resident students) was estimated at 35,962, a 3 percent increase from the 2000 Census population of 34,874. The Town's size represents nearly one quarter of the Hampshire County population. The slow steady growth rate in recent decades is in stark contrast to a significant population jump in the mid 20<sup>th</sup> century.

Amherst experienced a population boom beginning in the 1970's when the majority of the population "growth" occurred in the 15-24 age bracket. This growth continued into the 1980's and 1990's, with the 15-24 age group representing over 50 percent of the Town's population increase. Such a dramatic increase was due to expanded enrollment at the educational institutions, in particular the University of Massachusetts, which have shown steady increases until recently. Although the student population represented such a significant portion of overall population growth, the student population in Amherst has been gradually declining in recent years. While some students are year-round residents, clearly the transient student population is much more sizeable.

Even with a transient student population, UMass enrollment increases the total town population during the school months by as many as 30,000, with many of these students counted in the Census towards the Town's resident population even though they may leave the area during school vacations, especially the summer. Yet recent trends show that the summer population does not decrease as dramatically as it once did because students are remaining in Amherst for seasonal employment or are taking classes as indicated by an increase in enrollment during summer sessions at the university. Also, college sport camps (for Ultimate Frisbee, baseball, tennis, soccer, and lacrosse, especially) run by UMass and Amherst College have gained popularity with families throughout the summer, significantly adding to the number of seasonal residents.



## Section 3. Community Setting

The Amherst population may not be increasing as fast as it has in the past, yet it has more than tripled since 1950 (see Table 1, below). Three major institutions of higher learning, the University of Massachusetts, Amherst College, and Hampshire College have contributed significantly to the 20 to 24 year old population, comprising almost 31 percent of the total (see Table 2, below). In 2000 population counts included the University of Massachusetts at 23,570 students, Amherst College at 1,694 students, and Hampshire College at 1,139 students. These institutions also contribute to a range of densities found in Amherst, from highly urban (12,000 per sq. mi.) to rural (200 per sq. mi.). (See Appendix C-2: Optional Map B—2000 U.S. Census Population Density).

### **Environmental Justice Populations**

(See Map 2: Environmental Justice Populations)

According to the 2000 U.S. Census, there are a number of block groups that qualify as having environmental justice populations that meet one, two and three of the state's criteria. Due in large part to the university and colleges in Amherst, there is a broad spectrum of nationalities and ethnicities living in the community. Many students are now counted toward the Town's resident population even though they may not live here for the long-term. As students with limited employment and income, their reported earnings are significantly lower than the statewide median income. Similarly, many international students consider Amherst their home while they are attending these institutions, skewing the number of foreign-born and immigrant populations present year-round in Amherst or as long-term residents.

A common trend that has been happening for years and continues today, however, is that many students remain in Amherst after graduation. These students live and work in Amherst and become fully integrated into the fabric of the community. The Town is aware of, and embraces, its diverse population. As seen in Map 2, the Environmental Justice (EJ) populations of Amherst are distributed proportionally across town, with populations meeting two or more criteria concentrated around UMass and the colleges. The EJ populations live in the same village centers and town center alongside the remaining residents, and have access to the same utilities, infrastructure, and open space amenities.



### Section 3. Community Setting

The following tables help present a snapshot of characteristics of Amherst's population. It is important to note that with students comprising the majority of the population during certain times of the year, it is difficult to draw a fully accurate picture of the year-round, non-student population. Therefore, population counts represent estimates.

**Table 1 – Population Growth and Density in Amherst, 1950-2007**

<b>Year</b>	<b>Population</b>	<b>Growth Rate</b>	<b>Population Density (persons/ sq. mile)</b>
1950	10,856	NA	392
1960	13,718	0.26	495
1970	26,331	0.92	951
1980	33,229	0.26	1,199
1990	35,228	0.06	1,272
2000	34,874	-0.01	1,259
2007	35,962	0.03	1299

**Table 2 – Amherst Population by Age (2000)**

<b>Age</b>	<b>Number</b>	<b>Total Percent (%)</b>
0-4	993	2.85
5-9	1,208	3.46
10-14	1,365	3.91
15-19	7,571	21.71
20-24	10,768	30.88
25-29	1,888	5.41
30-34	1,351	3.87
35-39	1,256	3.60
40-44	1,502	4.31
45-49	1,616	4.63
50-54	1,421	4.07
55-59	953	2.73
60-64	668	1.92
65-69	590	1.69
70-74	549	1.57
75-79	474	1.36
80-84	309	0.89
85 plus	392	1.12
<b>Total</b>	<b>34,874</b>	<b>100.00</b>



### Section 3. Community Setting

**Table 3 – Amherst Population by Race (2000)**

<b>Race</b>	<b>Population</b>	<b>Percent of Total Population</b>
One Race	33,705	96.6%
White	27,665	79.3%
Black/Afr. American	1,780	5.1%
Am.Ind./AK Native	74	0.2%
Asian & Pac.Is.	3,177	9.1%
Asian	3,144	9.0%
Hawaiian/Pac. Is.	33	0.1%
Other	1,009	2.9%
Multiracial	1,169	3.4%
<b>Subtotal Minority Population</b>	<b>7,209</b>	<b>20.7%</b>
<b>Total</b>	<b>34,874</b>	<b>100.0%</b>

**Table 4 – Language Spoken at Home (2000)**

<b>Language</b>	<b>Number</b>	<b>Percent</b>
Population 5 years and over	34,006	100.0%
English only	27,162	79.9%
Language other than English	6,844	20.1%
Speak English less than "very well"	2,075	6.1%
Spanish	2,159	6.3%
Speak English less than "very well"	607	1.8%
Other Indo-European languages	1,885	5.5%
Speak English less than "very well"	396	1.2%
Asian and Pacific Island languages	2377	7.0%
Speak English less than "very well"	1007	3.0%

**Table 5 – Nativity and Place of Birth (2000)**

<b>Place of Birth</b>	<b>Number</b>	<b>Percent of Total Population (34,874)</b>
Native	30,268	86.8%
Born in United States	29,458	84.5%
State of residence	15,258	43.8%
Different State	14,200	40.7%
Born outside United States	810	2.3%
Foreign born	4,605	13.2%
Entered 1990 to 2000	2,686	7.7%
Naturalized citizen	1,415	4.1%
Not a citizen	3,190	9.1%



## Employment

The three colleges employ over half of the labor force in Amherst. The second highest employment is in accommodation and food services sector, employing over 8 percent of the labor force (see Table 6, below). Retail services, food services, and arts & entertainment are a small but stable employment base that is directly linked to the colleges and universities. (See Appendix C-3: Optional Map C—Commercial, Retail, and Industrial Zones). The median family income in 2000 was \$61,237, as compared to the county income at \$57,480 (U.S. Census Bureau). The following excerpts from the Massachusetts Executive Office of Labor and Workforce Development (EOLWD) using Employment and Wage (ES-202) data describe employment details as of 2007:

## Section 3. Community Setting

**Table 6 – Employment Totals by Industry Sector NAICS Code, 2007**

<b>Industry Description</b>	<b>No. of Establish-ments</b>	<b>Average Monthly Employme-nt</b>	<b>Percent of Employmen-t</b>	<b>Average Weekly Wages</b>
Agriculture, Forestry, Fishing, Hunting, Mining	7	68	0.5%	\$374
Construction	25	175	1.2%	\$868
Manufacturing	8	51	0.3%	\$537
Wholesale Trade	15	31	0.2%	\$1,488
Retail Trade	71	946	6.5%	\$461
Transportation and Warehousing	4	107	0.7%	\$746
Information	21	202	1.4%	\$710
Finance, Insurance, Real Estate	68	428	2.9%	\$761
Professional and Technical Services	95	304	2.1%	\$1,089
Administrative and Waste Services	25	153	1.0%	\$667
Educational Services	49	8,425	57.6%	\$1,036
Health Care and Social Assistance	74	950	6.5%	\$604
Arts, Entertainment, and Recreation	14	570	3.9%	\$240
Accommodation and Food Services	74	1,192	8.2%	\$274
Other Services, Ex. Public Admin	213	641	4.4%	\$404
Public Administration	14	374	2.6%	\$1,041
<b>Total, All Industries</b>	<b>777</b>	<b>14,617</b>	<b>1</b>	<b>\$827</b>



A further breakdown including the largest employers in Amherst in 2008 were:

**Table 7 – Largest Employers in Amherst, 2008**

<b>Business</b>	<b>Product/Function</b>	<b>Approx. # of Employees</b>	<b>Notes</b>
University of Massachusetts (includes graduate students)	Public University	7860	4,823 FT; 3,037 PT
Amherst College	Private College	860	FT
Hampshire College	Private College	428	FT and PT
Big Y Supermarket	Supermarket	160-170	40 FT
Center for Extended Care at Amherst	Health	190	
Atkins Country Farm Market	Grocery	165	80 PT, the rest FT
Judie's	Restaurant	85	35FT, 50 PT
Valley Medical	Health	75	60 FT, 15 PT
Lord Jeffrey Inn	Hotel/Restaurant	1 (Due to renovations)	Typically ~ 80
Amherst Post Office	Federal Government	58	FT and PT
USDA	Federal Government	63	
Valley Transporter	Transportation	40	10 FT, 30 PT
Bank of America	Bank	12	
New England Environmental Inc.	Environmental Consulting	16	
Florence Savings Bank	Bank	10	
University Lodge	Hotel	7	
Amherst Motel	Hotel	3	
Rafters	Restaurant	50	10 FT; 40 PT
The Pub	Restaurant	36	5 FT, 31 PT

Amherst remains an attractive community in which to live, work, and raise a family, and in which to spend an engaged and interested maturity. Increased student enrollment at UMass, in the past three years, has brought additional 18-24 year old students to town requiring more services and facilities. Young farmers looking to purchase agricultural land are also attracted to this area as the appeal of organic farming and products has increased within the valley. Several developments currently in the planning stages are marketed for independent retirees and others over 55. As a result of these attractions, there has been an increase in a more diversified population and employment sectors in Amherst.

### Section 3. Community Setting





## D. Growth and Development Patterns

### *Patterns and Trends*

In the early 19th century, six village centers gradually developed in the Amherst area as a result of the establishment of the land grant Massachusetts Agricultural College. As 1960 approached, growth began to accelerate due to the rapid expansion of the University of Massachusetts and the growth of Amherst College and Hampshire College. (See Appendix C-4: Optional Map D—Development Stages 1971-2007).

There have been several waves of development, each about evenly divided between standard frontage lots and actual subdivisions and apartment complexes. This latter growth has occurred on outlying former farm land overgrown into second growth woodland. Many of the boundary areas between former village centers and open land have been blurred by frontage lot development. In an effort to preserve some of the scenic and essential qualities of Amherst's landscape and farming community, an active acquisition program and aggressive zoning restrictions have been pursued with the goal of preserving valuable open space and farmland. As of 1999, based on Massachusetts GIS data, 5,614 acres (32 percent of surface area) were developed in Amherst while 12,151 acres were undeveloped, indicating that much more development could occur in town. (See Appendix C-5: Optional Map E—1999 Land Use/ Land Cover).

In 2002 the town funded a Build-Out and Growth Study, carried out by Applied Geographics, Inc. (AGI) and Philip B. Herr & Associates in conjunction with the Amherst Planning Department. In 2000, the Town had about 9,400 dwelling units. The study concluded that current zoning and land use constraints would allow the addition of about 3,600 dwelling units to that total, an addition of about 38 percent. That could mean the addition of 8,000 residents, bringing the Town's population to about 43,000. "That potential includes some amount of redevelopment of existing houses to accommodate additional units as zoning allows, but does not include building where prohibited by environmental rules, and includes only limited development on lands owned by the Town's educational institutions. It reflects a continuation of open space protection at about the rate experienced over recent decades." (Build-Out and Growth Study, 2002).

The Study continues:

"Build-out to the full estimated land capacity ... (would bring) comparable increases in all the impacts of development, including both economic support and demands on services and resources. Some impacts, such as those on community character, would depend upon just how those additional 3,600 units are located, whether continuing recent trends, focusing on a strong





## Section 3. Community Setting

center, or forming new villages at some number of locations. In exploring those pattern choices it became clear that their feasible differences were rather small if 3,600 units were to be accommodated, but would be more substantial if that added number were reduced to, say, only half that increase, or 1,800 added housing units. That might be accomplished through some combination of zoning or other regulations and deeded protections such as through expanded acquisition for open space.”

### *Infrastructure*

#### **Transportation Systems**

The location of Amherst and the existing infrastructure make the town accessible and easy to navigate by highway, bus, and rail. The intersection of Route 9 (spanning the full length of the state from east to west) and Route 116 (running north-south) is located in the center of town. In addition, a short drive from the center of town, Route 91 provides direct access to Hartford, Connecticut to the south and Brattleboro, Vermont to the north. The Massachusetts Turnpike can be easily accessed, connecting people to Boston to the east and Albany, New York, to the west.

Amherst is a member of the Pioneer Valley Transit Authority (PVTa), which provides year round bus services throughout the community and to abutting towns of Sunderland, Northampton, and Belchertown. Most routes on this extensive system are fare-free and subsidized by the Federal Government, the Town of Amherst, area colleges, and a few private individuals and businesses. The private Peter Pan Bus Line provides linkages to Springfield, Boston and other major cities. Amtrak also makes a daily stop in each direction in Amherst on its passenger service route between Montreal and Washington, D.C. via New York City. (See Appendix C-6: Optional Map F—Public Transportation Routes)

The Amherst community and surrounding towns are also home to an active cycling community. Many roads offer bicycle lanes, allowing for non-motorized traffic. The Norwottuck Rail Trail, under the administration of the Massachusetts Department of Conservation and Recreation, is a popular commuter and recreational bicycling route that provides a direct link across the Connecticut River between Amherst, Hadley, and Northampton. (See Appendix C-7: Optional Map G—Existing and Proposed Bike Routes).



## Section 3. Community Setting

### Water Supply Systems

(See Appendix C-8: Optional Map H—Municipal Water and Sewer Service Extents)

The Town water supply system currently has seven sources that include the Atkins Reservoir in Shutesbury and Amherst, the Pelham Reservoirs (Hills, Hawley, and Intake), the South Amherst Wells (#1 & #2), the Brown Well (#3) in Belchertown, the Lawrence Swamp Well (#4) and the Bay Road Well (#5) in South Amherst. The surface water supply areas at Atkins and Pelham, and Wells 1, 2 & 3 are used year round to satisfy the required demands. These five sources supply approximately 90 percent of the total water produced. About 98 percent of Amherst homes are served by the water supply system; the roughly 160 units on individual wells are located in the Flat Hills-High Point Drive section of town in northeastern Amherst. Wells #4 and #5 operate during high demand periods and summer months when the reservoirs are low.

The average daily water consumption for the year 2007 was 3.248 million gallons, with a peak demand of 4.364 million gallons on September 4, 2007. Water consumption has dropped measurably in the past few years due to successful water conservation efforts at the University, reducing the average daily demand of 3.7 million gallons per day (mgd) in 2000.

Based on projected population increases, and the current total capacity of the water system of 6.64 mgd and a reliable capacity of 4.34 mgd, daily water consumption will exceed demand by 2020 when the projected maximum daily demand will reach 5.66 mgd. As confirmed by Tighe and Bond Engineering consultants, “it appears obvious that long-term needs of the Town may one day exceed the total of all available and now undeveloped safe yields located within the Town boundaries, and outside sources may be required.” Recent water conservation measures undertaken by UMass may extend this, but the Conservation Commission actively supports appropriate measures that will protect both underground aquifers and their recharge areas, and above-ground reservoirs and their watersheds. For both of those, the Town will need to continue cooperation and assistance with neighboring towns, including Belchertown, Pelham, Shutesbury and Hadley, as the Town’s deep and surficial water supplies transcend town boundaries

### Sewer Service

As of 2000, 8,127 dwelling units were served by the Town’s sewage disposal system. About 1,300 units were on private septic systems. As of 2003, the town was beginning the process of preparing a long-range sewer facilities plan that would put in priority all future sewer extensions, taking into account the incidence of septic system failure in target areas not



## Section 3. Community Setting

sewered, principally, the Bay Road-Hulst Road-Elf Hill area; the Flat Hills-High Point Drive area; and Montague Road, Leverett Road and East Leverett Road in north Amherst. The plan examines the land use implications of sewer extensions, including the degree of threat to prime open space or farmland possibly brought about by sewer extensions (in consultation with the Conservation Commission and the Agricultural Commission); the physical difficulties of extending sewer lines in each unsewered area; and the cost of the proposed extensions.

### ***Long-Term Development Patterns***

(See Map 3: Zoning)

Amherst is nearing the completion of a multi-year master planning effort, which is anticipated to be followed by a substantial change to the community's growth management regulations such as zoning, subdivision regulations, and local health and environmental regulations. It is likely that those regulations will result in a significant reinforcement of Amherst's traditional New England development pattern, especially in terms of open space and recreation, and will reinforce and improve the ways in which the community directs new development into existing centers and protects and enhances these important outlying resources.

Amherst has in place an array of land use controls to protect critical resource areas and mitigate growth (See Map 3: Zoning). They include:

**Aquifer and Watershed Protection Zoning.** The Aquifer Recharge Protection (ARP) and Watershed Protection (WP) overlay zoning districts regulate the land use development that can occur in areas identified as critical to the protection of public water supplies (surface reservoirs and wells). In addition to the regulation of potentially polluting land uses, these districts require that all residential subdivision development be clustered to reduce the sprawl and impact of residential units. Within the ARP District, all undeveloped parcels over 60,000 sq. ft. in area were rezoned some years ago to Low Density Residence (R-LD) to decrease potential future density.

**Farmland Conservation Zoning.** The Farmland Conservation (FC) overlay district regulates the land use development that can occur within areas identified as critical farmland because of soils and occurrence within significant farmland blocks. In addition to the regulation of potentially conflicting land uses, this district requires that residential subdivision development be clustered to reduce the sprawl and impact of residential units. Further the cluster dimensional requirements for clusters in the FP District are more stringent than for clusters in other zoning districts, resulting in the creation of a greater amount of permanent open space set aside for farming use.



### Section 3. Community Setting

Phased Growth. Two provisions of Article 14, Phased Growth, of the Amherst Zoning Bylaw (expires November 2009) helped to preserve open space: (1) it established a cap of no more than 250 residential building permits to be issued over any two-year period, calculated on a running daily average (this also allowed the Town's infrastructure to keep pace with new development); and (2) it phased subdivision development, limiting the number of residential units to be built in any given year. It accomplished this by establishing a base rate of units per year that could then be altered (speeded up or slowed down), by the land use permitting board, depending on how well the development met the Town's objectives.

Those objectives were set out in a point system used by the land use permitting board to determine how well the development encouraged the preservation of open space, the protection and retention of farmland, low density over the aquifer areas, the use of clustering, the use of Planned Unit Residential Developments (PURDs), preservation of natural resources and views, and the use of site design which incorporates and protects natural features.

However, as a result of a recent court case which found regulatory "growth restraints" to be unconstitutional, a sunset of November 2009 was established for the Phased Growth provisions of Amherst's zoning. Under the master plan, new regulations will be developed to replace the function that phased growth serves.

Village Centers. The Zoning Bylaw also makes it easier for new development to occur in existing established village centers, nearer to services and infrastructure. Two districts, the Village Center Business (B-VC) and Village Center Residence (R-VC) districts, allow for a compatible mix of residential and commercial uses, and higher densities of those uses. That takes some development pressure of remaining open, outlying lands.

Flood-Prone Conservancy. The Flood-Prone Conservancy (FPC) District includes 100-year floodplain areas and adjacent banks, slopes, and associated wet meadows. It is essentially a no-build zone, and serves to protect greenbelts along the rivers and streams in Amherst.

The intention of the zoning and land use regulations is to direct development to appropriate areas and in a general way, to shape each project in terms of building mass, intensity of use, and density. It is important to balance growth of population, housing and employment with that of conservation and recreation. The following table lists approved subdivisions in recent decades to help provide a snapshot of the type and size of residential projects in Amherst.



## Section 3. Community Setting

**Table 8 – Approved Subdivision Activity – 1985 to 2007**

<b>Subdivision Name</b>	<b>Number of Units</b>	<b>Permit Year</b>	<b>Comments</b>
Hampshire Village	180	1985	completed
Harvest Acres, E.Hadley Rd	22	1986	completed
Misty Meadows, Stanley St	31	1987	nearly complete – 2 affordable
Amherst Woods Phase IV	45	1987	completed
Whitman Hill, Strong St	13	1988	
Arbor Way, North East St	10	1988	completed
Hedgerow Lane, No.East St	19	1988	completed
Greenleaves, Route 9	335	1988	under construction
Eastwood G, Blackberry Ln	7	1988	completed
Pine Woods, off Old Farm Rd	20	1989	
Wentworth Meadows, Old Farm Rd	14	1988	never built
Hop Brook Meadows	31	1989	under construction, nearly
White Pine Woods, Old Farm Rd	5	1989	
Amherst Fields, S.East St	50	1989	in litigation
Amherst Hills, Wildflower Dr	77	1989	construction started 2003
Hawley Meadows, E. Pleasant	31	1989	completed
Outer Commons, Amity St	18	1989	completed
Canterbury Farms, Bay Rd	15	1990	completed
Market Hill Rd	7	1991	completed
Swallow Farms, S. East St	6	1991	completed
High Point Drive	8	1992	completed
Farm Hills, Station Rd	6	1993	completed
Pine Meadow, Pine St	14	1993	completed
East Woods, Wildflower Dr	43	1996	under construction
Sunwood Pasture, S. East St	6	1998	under construction
Poet's Corner, Pelham Road	14	2000	under construction
Dayton Estates, Harkness Rd	6	2000	under construction
Barkowski Meadows, E. Pleasant	17	2001	under construction
Owen Farm, Cottage St	6	2002	under construction
Palley Village, Old Belchertown Rd	12	2004	completed
Moody Fields, Snell St	7	2004	completed
Haskins View, E. Leverett Rd	26	2005	plan denied
Lawrence Circle, Owen Dr	6	2005	completed
Amherst Enterprise Park, Meadow St	6	2006	light industrial office park
Simmons Cluster, Bay Rd	8	2007	under construction
Strawberry Field, S. East St	10	2007	preliminary
Apple Brook Cluster, West St	8	2007	In litigation
<b>Total units</b>	<b>1,139</b>		



**Table 9 – The number of single and multi-family dwelling permits issued in calendar years 1987-2007:**

<b>Year</b>	<b>Single Family</b>	<b>Multi- Family (Units)</b>
1987	80	
1988	55	
1989	53	
1990	25	
1991	24	
1992	36	
1993	51	152
1994	44	4
1995	38	8
1996	39	10
1997	32	78
1998	24	10
1999	29	0
2000	37	12
2001	36	0
2002	36	0
2003	32	61
2004	29	
2005	28	39
2006	16	43
2007	7	4
<b>Total</b>	<b>751</b>	<b>274</b>

The result of continued development under the current zoning will be an increase in density in and around existing developed areas, especially the Town Center and outlying older village centers. This is in keeping with several decades of community planning and to the extent possible, will continue to maintain Amherst's historical New England pattern of densely settled village centers separated by open farmland and woods (Amherst Master Plan, 2007).

### Open Space and Recreation Trends

A larger, more diversified population means an increase in users of conservation, recreation and open space areas, creating both challenges and opportunities for residents and town staff alike. For instance, over the last five years a steady increase in dog ownership (as seen in license numbers), hiking, mountain biking, and cross country skiing, has resulted in an increased use of hiking trails, parks, and recreation areas. Use of





### Section 3. Community Setting

hiking trails and recreation areas has also steadily increased, based on observations by conservation staff. Trails surrounding Puffer's Pond, Amethyst Brook, Wentworth Farm, and the Hitchcock Center for the Environment and Larch Hill, especially, are heavily used. All of these areas are in need of frequent maintenance, many times exhausting town conservation personnel and material resources, and taking time and funding away from other projects and needs.

The town is also experiencing a shrinking supply of playing fields. The University of Massachusetts and the two local colleges have large land holdings and many high quality recreational facilities. The University has generously made available its facilities over the years, particularly their playing fields. However, in the last 10 years, these spaces have been reduced dramatically as a result of new construction and the changing needs of University programs. Formerly widely used recreational fields have become building sites and specialized varsity facilities with limited availability to the general public. So while the interest in using University and College land has increased, priorities on the campus continue to change and will likely not include continuing use by town residents. This increased usage of fields and facilities for active, organized recreation generates significant scheduling conflicts and greatly increases the need for maintenance. Lack of space for field-based sports, specifically, has caused tremendous strain and frustration on sports teams and organizers since current facilities cannot support demand. Recent increases in the popularity of certain sports such as Ultimate Frisbee, lacrosse, and cricket, to name a few, has created more competition for playing fields throughout town.

The Amherst School Department and the Town share playing fields, and it should be noted that the School Department has fewer fields than it needs in order to accommodate its own varsity sports programs. The Town's best field, Community Field, is only available for public use when the high school varsity baseball, softball and football teams are not using it for games or practices. LSSE does not control the schedule for the School fields and therefore uses them only when they are not used for school sports, closed for renovations, or are resting to allow the grass to recover.

As this section makes clear, demand for interaction with nature and for organized outdoor and indoor recreation in Amherst will inevitably increase. With this increased in demand and use, more strain will be placed on existing resources. Recreation facilities will need more frequent maintenance, improvement, expansion and replacement. Trail systems, conservation areas, river and stream corridors, and sensitive ecological areas will feel greater impacts from overuse. Conflicts between different user groups will increase.



To meet local and regional needs, and to protect and sustain Amherst's open space and recreation resources in the face of increasing levels of demand and use, it is imperative that Amherst invest in the improvements, protections, maintenance, and ongoing management that will allow these critical local resources to be sustainable and to endure into the future.

### **Section 3. Community Setting**





## Section 4. Environmental Inventory & Analysis

The purpose of Section 4 is to identify general areas in Amherst that contain natural features—steep slopes, prime soils, unique geological formations—that may need protection from the impacts of development. Just as zoning regulations direct development to appropriate areas, assessing and identifying environmentally sensitive areas or places unique to Amherst helps direct conservation and recreation efforts and strategies.

### A. Geology, Soils, and Topography

(See Map 4: Geology, Soils and Topography)

The United States Soil Conservation Service has organized soils surveyed in Amherst into five different soil associations; each has a distinctive pattern of soils, topographic relief, and drainage. They are categorized as follows:

North Amherst - Soils in the north section of town fall primarily into three associations: Gloucester-Montauk-Paxton association, Hinkley-Merrimac-Windsor association, and Amostown-Scitico-Boxford association. The Gloucester association consists of low hills and ridges with rolling to steep topography. The soil substrate has been formed from glacial till, is sandy and loamy and varies from excessively well drained to well drained, and is able to support forest growth. The main limitations for development and standard farming practices are stones on the surface, slope and slow permeability.

The Hinkley association consists of soils that are typically excessively drained, sandy and loamy soils formed in outwash deposits. Topography ranges from rolling broad areas to narrow terraces. Many areas are dissected by drainage ways that vary from rolling to steep. Soils in this association on minimal slopes are subject to pressure from development because of their permeability. The soils are less than ideal for standard farming practices because of their vulnerability to drought.

Soils in the area west of Rte 116 in North Amherst have been put almost entirely into farming use even though this area is primarily made up of the Amostown soil association and considered to be less than productive for farming because of wetness and slow permeability. This same quality also tends to offer some protection from commercial or residential development. The soils are moderately well drained to poorly drained formed in outwash or lacustrine sediments.



## Section 4. Environmental Inventory & Analysis

South Amherst - The soil associations in South Amherst fall into the Gloucester and Hinkley groups found in the central and northern parts of town and the soil association Rock Outcrop-Narragansett-Holyoke association of the Mount Holyoke Range. The steep slopes of the Mount Holyoke Range with bedrock, rock outcroppings, and massive ridges, have made development more limited.

The Natural Resources Conservation Service has designated two categories of agriculturally important soils that occur in Amherst. The first, “prime farmland” with soils of national importance, includes land “best suited to and available for producing food, feed, forage, and fiber... it has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to current farming methods” (Natural Resource Conservation Service). There are 6,185 acres of prime farmland in Amherst.

Farmland of state-wide or local importance in Massachusetts includes important farm soils that fall short of the requirements of prime farmland. There are 3,429 acres of land in this soil category. The correlation between prime agricultural soils and present active farming in Amherst is not strong. Location, ownership, and past development trends have probably been at least as important as soils in influencing the location of farm operations. Housing construction in Amherst has frequently followed the regional pattern of locating in accessible, easily developed areas, with the result that some of the largest sections of prime soils have been converted to virtually permanent non-farm use.

### B. Landscape Character

(See Map 5: Scenic Resources & Unique Features)

Amherst is predominantly a residential community lying on the Connecticut River Valley plateau with the Mount Holyoke Range rising dramatically against the southern skyline. The Massachusetts Scenic Landscape Inventory describes the surrounding area as follows,

*“The Pioneer Valley covers the largest area of relatively unspoiled scenery in the Commonwealth. The valley contains large expanses of flat farmland, dotted with old tobacco barns in an east-west orientation. The steep-sided hills, such as North and South Sugarloaf mountains, Mount Toby, Mount Warner, and the Mount Holyoke Range, all afford impressive views of this productive landscape from above. This area probably contains more vestiges of the 18th century landscape than anywhere else in the Commonwealth.”*

The Amherst area and surrounding communities are still fortunate to have remained relatively unspoiled and rolling farmland still in production contributes a great deal to its scenic qualities.



## Section 4. Environmental Inventory & Analysis

The Mount Holyoke Range runs east-west along the southern border of Amherst, making a natural barrier between the towns of Granby and South Hadley. Dating from the earliest settlements, this region was used for woodlots and pastures. Now it is mostly wooded and offers thickets, streams, ponds and wetlands. The northern slopes offer exceptional views of the Connecticut River Valley, the Mt. Tom Range, and the villages of Amherst, Northampton, and Easthampton. Wildlife is also abundant, with black bear, deer, fox, coyote, bobcat, moose, fishers, copperheads, turkey, grouse and migratory birds. This is a popular site of yearly hawk migrations, with hundreds making their way to southerly wintering grounds. This area is also prime for both passive and active outdoor recreation, “offering hiking, walking, viewing vistas, cross-country skiing, mountain biking, snowmobiling, horseback riding and hunting” (Department of Conservation and Recreation, 2007).

Puffer’s Pond, located in the northern section of town, is a popular destination for many recreationists, with a swimming beach, fishing, and a web of hiking trails. This region is part of a wildlife corridor continuing north and east through the town of Leverett. The Mill and Fort Rivers flow east west through the north and south of town, respectively. Lawrence Swamp, located in the southeastern corner of town, is an area rich in biodiversity. This area contains grassy meadows, ponds, open fields and, stands of mixed hardwoods and wetland vegetation. These corridors are all excellent locations for wildlife viewing and essential for the survival of species throughout the region, a function they have served since before European contact and settlement.

Development in any of these locations would cause adverse affects to wildlife populations already threatened by loss of habitat and habitat fragmentation. Key water resources would also be diminished, whereby decreasing the Town’s water supply. Careful planning has created and maintained beautiful viewsheds and open space throughout town. Increased development would cause a decrease in property values, tourism, and overall scenic value of town. Much of the open space is protected conservation land and frequented by recreationists, pet owners, families, and visitors to Amherst.



## **C. Water Resources**

(See Map 6: Water Resources)

### ***Watersheds and Aquifer Recharge Areas***

Since 1940, the Town of Amherst has maintained significant watershed forest holdings to protect its reservoirs and underground water supplies. Watershed holdings total 2,662 acres, with approximately 690 acres in Shutesbury, 1,537 acres in Pelham, 140 acres in Belchertown, and 300 acres in the Lawrence Swamp in South Amherst. For many years the watershed forest has been under active management for water production, revenue from wood sales, and improvement of timber stands and wildlife habitat. Overall, the Pelham watershed totals approximately 3,950 acres of Town and private land, and drains into three small reservoirs with a combined surface area of about 18 acres. The 3,650-acre Shutesbury watershed feeds Atkins Reservoir, with a 51.5-acre surface area.

In 1941, the Town purchased the Amherst Water Company real estate, which included four reservoirs and considerable acreage in Pelham and Shutesbury, with additional parcels added in succeeding years. The Town now owns approximately one third of the 7,600 acres of land that drain water into the reservoirs, and hopes to increase that percentage when necessary to prevent development that might have a negative impact on the water supply.

### ***Surface Water***

The Mill River area in north Amherst runs through a natural greenbelt southwest to Hadley and the Connecticut River. Much of the flood plain is protected from development by FPC zoning restrictions, the Town Wetlands Protection by-law, and the Massachusetts Wetlands Protection Act. Active land acquisition and trail easements in this area provide extensive space for outdoor recreation while protecting wildlife habitat, water quality, and scenic beauty.

The Fort River is the primary river that runs through central and south Amherst. Sections of the river are included on the Estimated Habitat Map of Endangered and Rare Wetland Wildlife Species published by the Massachusetts Natural Heritage Program. In response to this inclusion, proposed developments in east Amherst near the Fort River have come under more detailed review by the Conservation Commission and plans to acquire conservation land in this area have been successful. Efforts to protect more land in this area are ongoing.



## ***Wetlands***

Like many other towns in Massachusetts, Amherst lost many of its wetlands during the 19th century when dredging and ditching to drain land and ‘improve’ it for agriculture was common practice. Today, the Lawrence Swamp in South Amherst is the largest remaining wetland complex in town. Remnant stands of red maple swamp in the Podick Conservation Area hint at what the Great Swamp in North Amherst and Hadley may once have been like—covering an area including much of the UMass campus westerly along the Mill River and north into Sunderland. Much of the remaining wetlands today are found in the floodplains of the Fort River and smaller tributaries like the Plum and Hop Brooks.

## **D. Vegetation**

### ***General Inventory***

Amherst is fortunate to have a broad mixture of vegetation types due to the Town’s varying topography, geology, soils, and land use history. Forest types include transition hardwoods, central or ridge top hardwoods, white pine, swamp hardwoods, flood plain forest, and early successional types. Non-forest cover types in Amherst include old field, shrub swamp, rock balds, open marsh, playing fields, abandoned gravel pits, the old town landfill, and various active agricultural types. Subdivisions and other residential and commercial development have fragmented some of the large contiguous blocks of forest and agricultural land; those that remain are described below.

### ***Forest Land***

The largest blocks of continuous forest are as follows: (1) the north slopes of the Mount Holyoke Range in extreme southern Amherst (more than 1,000 acres adjoining an additional 5,000 acres in the three adjacent towns the Range occupies; (2) the Lawrence Swamp (1,000 acres interspersed with scattered agricultural fields, marsh and open water); (3) the Mt. Boreas-Flat Hills area, with about 400 acres partially impacted by residential development along Flat Hills Road and Market Hill Road, and in the High Point Drive subdivision; and (4) Pulpit Hill, with some 300 acres between the New England Central Railroad and Route 63 consisting of about 50 percent open agricultural land and about 50 percent forested land and Christmas tree plantations. Smaller forested blocks are scattered throughout town.



## ***Public Shade Trees***

In 1853, an enthusiastic group of Amherst citizens formed the Village Improvement Association. Among other activities, they planted trees that in subsequent decades came to shade the streets in North Amherst, South Amherst, and downtown. The large, mature trees that form the backdrop of our beautiful town today are the legacy these visionary efforts. To continue the work begun decades earlier, and as a response to the loss of American Elms to Dutch elm disease, Amherst established its Public Shade Tree Committee in the 1970's. Their work has helped Amherst remain a Tree City USA for 21 years.

Today, the Public Shade Tree Committee works closely with the Town's Tree Warden to increase tree canopy along neighborhood streets, and to review projects that would remove trees within the public right-of-way and along designated scenic routes. Existing trees, shrubs (and stone walls) are protected under the Shade Tree Act (MGL Ch. 87) and the Scenic Roads Act (MGL ch. 40, §15C). Although Amherst has extensive preserved open space and regulations in place to protect public shade trees—trees in parks, town-owned cemeteries, the Town Commons, and within the road right-of-way—nearly 100 trees are removed from the streets each year. The visual impact of this tree removal may be minimal from year to year; however, it is the Town's concern that the cumulative effect after many years will be detrimental to the environment as well as the character of Amherst's village centers and downtown.

The committee has started a Shade Tree Fund to help offset the cost of tree replacement and maintenance of newly planted street trees. The Public Shade Tree Committee also organized planting 250 trees for Amherst's 250th anniversary in 2009, encouraging neighbors and friends to purchase or plant a tree on town property. A more vigorous effort is underway to inventory public shade trees and develop a Community Forestry Management Plan to guide efforts to deal with neglected and aging public shade trees. The Community Forestry Management Plan is an essential step to reclaiming unshaded streets, and make the town and village centers more pedestrian-friendly, thereby increasing economic viability and restoring community character. The plan would develop a comprehensive strategy for the public care of Amherst's green infrastructure, specifically increasing canopy cover with the cooperation and active involvement of residents whose properties abut the public right-of-way.

## **Section 4. Environmental Inventory & Analysis**



### ***Agricultural Land***

Agricultural Preservation Restrictions (APR's) currently protect 2,038 acres within Amherst, just over 10 percent of the total land area. The largest blocks of working farmland are located within the northwest corner of town, west of Rt. 116 and north of Meadow Street; and east of South East and North East Streets, between Station Road and Shutesbury Road. Both Amherst and Hampshire Colleges hold large tracts of land in central and southern Amherst (respectively), offering areas of grasslands and farmland, vitally important for wildlife populations.

### ***Wetland Vegetation***

Wetland resources identified in the Town of Amherst Wetlands Protection Bylaw consist of freshwater wetlands, marshes, wet meadows, bogs, swamps, isolated wetlands, vernal pools, banks, reservoirs, ponds, intermittent streams and watercourses. Most of the vegetation is scrub-shrub, with open wetlands and some forest wetlands.

### ***Rare Plant Species***

The following paragraphs list rare and uncommon plant species found in Amherst. To protect these plants their locations have been intentionally omitted from this report. Documented state-listed species in town include:

- *Lygodium palmatum*, American climbing fern
- *Petasites frigidus* var. *palmatus*, sweet coltsfoot, and
- *Claytonia virginica*, narrow-leaved spring beauty.

Other rare and uncommon plant species include:

- *Epilobium coloratum*;
- *Pogonia ophioglossoides*;
- *Calopogon pulchellus*;
- *Penstemon digitalis*;
- *Habenaria fimbriata*;
- *Platanthera lacera*;
- *P. psychodes*; and
- *Spiranthes cernua*





## ***Unique Natural Resources***

- ❖ Small areas of open marsh at Mt. Holyoke Drive, West Pomeroy Lane, Potwine Lane, the UMass Stadium (into Hadley), South East Street at Stanley Street, and others.
- ❖ Traprock balds at the summits of Bare Mountain (South Hadley town line) and Rattlesnake Knob (Granby town line).
- ❖ Wet meadows at Old Farm Road (Wentworth Farm Conservation Area), Station Road (MacLeod Field), with an abundance of orchids and other wet meadow herbaceous flora, Strong Street (Gulliver Meadow Conservation Area), South East Street (the Wilkie and Kentfield farms, both under APR's), West Street (land of Hampshire College), Pomeroy Lane (the Poor Estate), East Leverett Road (Haskins Meadow Conservation Area), Leverett Road (Eastman Brook Conservation Area), and others.
- ❖ Thicket habitat at Pomeroy Lane, South Pleasant Street, Route 63 (Harris-Patteson Conservation Restriction and adjacent land of W.D.Cowls, Inc.), and Mill Lane (Amherst College land along the Fort River).
- ❖ Juniper-cedar old fields off Route 116 (Podick Conservation Area) and in the Eastman Brook Conservation Area and surrounds.
- ❖ Buttonbush pools and pond edges at Pomroy Pond (Old Belchertown Road), land off Old Farm Road (pools in Wentworth Meadows proposed development area), land east of East Pleasant Street south of Village Park, and West Pomeroy Lane.
- ❖ Ponds (more than 80 ponds scattered throughout town, including Harkness Pond, Puffer's Pond, Markert's Pond, Pomroy Pond, and ponds next to Atkins Reservoir in adjacent Shutesbury).
- ❖ Vernal pools (including important complexes in the Lawrence Swamp, the Old Farm Road area, and many other locations).
- ❖ Major flood plain wetlands at Hop Brook (Station Road north to South East Street), Fort River (south of Stanley Street), and Middle Street (Plum Springs and Plum Brook north to Pomeroy Lane).
- ❖ Salamander Crossing on Henry Street in north Amherst east of Cushman Village. This area includes wetlands and intermittent streams, and upland areas such as isolated wetlands where the salamanders hibernate.

## **Section 4. Environmental Inventory & Analysis**





### ***Vegetation Mapping Projects***

Although Amherst has long been planning for the acquisition of conservation and recreation areas, and is aware of the many benefits of having preserved land in the community, individual plant species and areas with a plethora of unique specimens are often overlooked when discussing land conservation. To help document these unique areas in town, a number of informal studies have been completed by volunteers and local organizations.

A 1994-95 inventory of the ferns and fern allies of the Lawrence Swamp, carried out by Paul Martin Brown, formerly of the New England Wild Flower Society, in cooperation with the Hitchcock Center for the Environment and local volunteers, identified a wide range of plants present in that area. Botanical studies of the Mount Holyoke Range and nearby sites in Sunderland and South Hadley have produced new plant listings for sites near the Robert Frost Trail, the Metacomet and Monadnock Trail, and other areas.

## **E. Fisheries and Wildlife**

### ***Inventory***

Amherst is home to a wide variety of wildlife, of both the permanent and migratory variety. Specific mammalian species include: expanding white-tailed deer and beaver populations throughout town, coyotes denning in the northern sections of town, fluctuating populations of red and gray fox, bobcats, increased black bear denning in east Amherst, fishers in east and south Amherst, and otters along the Norwottuck Rail Trail. The moose population is expanding in nearby communities to the north, but resident and reproducing moose have not yet been documented in Amherst.

Many waterfowl species can also be found within all of the water features in town including wood ducks, hooded mergansers, herons, and egrets. Amherst does have a resident population of Canada geese that remain on the University of Massachusetts year-round, adding the growing number of such populations found in neighboring communities. Many species of hawks migrate through the area in spring and fall while breeding is limited to the following: red-tailed, American kestrel, goshawk, coopers, and red-shouldered. Areas along the Mount Holyoke Range and foothills are great places to locate migratory raptors flying to southern nesting grounds in the fall months. Migratory songbirds are routinely abundant in spring and fall at stopover areas throughout the Mount Holyoke Range and foothills. Owls, including the great horned, barred, screech, and saw-whet, occupy most or all available habitats in town. Field-nesting birds (eastern meadowlarks, bobolinks, Savannah sparrows, and others) regularly breed in conservation and APR fields.



## Section 4. Environmental Inventory & Analysis

Woodcock are abundant in wet early successional areas and during migration, and snipe can be found in a few locations. Ruffed grouse populations have dwindled along with their preferred habitat, but can still be found in limited successional areas. Wild turkey populations have expanded dramatically and resident flocks can be found throughout Amherst. Rails can be found in marshes, and various other uncommon bird species regularly occur in town including the Cooper's hawk, worm-eating warblers, and red-shouldered hawks.

Fisheries include a few remaining native brook trout populations in Adams, Eastman and Cushman Brooks, as well as brooks on the Amherst watershed in Pelham and Shutesbury. A wide range of warm water fish species are found in the lower reaches of the Mill and Fort River drainage. Lamprey and American Eels run up the Fort River to spawn. Amphibians and reptiles have been catalogued at various locations. Species found include Box Turtle, Wood Turtle, and Spotted Turtle. Timber rattlesnakes have not been documented along the Mount Holyoke Range in many years but Copperheads are still found with some regularity. Spotted salamander populations have been documented at several locations in town, as well.

### ***Vernal Pools***

As of April, 2007, the Natural Heritage and Endangered Species Program had identified 11 certified vernal pools in Amherst (Mass Wildlife, Natural Heritage and Endangered Species Program, 2007). Many more vernal pools exist in town but have yet to be officially certified by the Commonwealth. These habitats are protected under the Massachusetts Wetlands Protection Act, as well as other federal and state regulations. Under the Wetlands Protection Act, vernal pools must be within another resource area to be regulated, but a stand-alone vernal pool can be certified. In response to this, under the Town of Amherst Wetland Protection Bylaw, a 200 ft. buffer is offered to pools located in upland areas and those outside a wetland. (See Appendix C-9: Optional Map I—Natural Resources)



## ***Corridors for Wildlife Migration***

Principal connections among conservation areas and other protected land include the following:

- ❖ The Mount Holyoke Range and its linkages to the Connecticut River, Lawrence Swamp, and Plum Brook, and the Quabbin Reservoir to the east.
- ❖ The Lawrence Swamp with connections northward to Hop Brook and the Fort River north of Station Road and to South Amherst farmland via the Norwottuck Rail Trail.
- ❖ The University Drive area and linkages westward to the UMass Hadley Farm, Mt. Warner, Lake Warner, and the Connecticut River via lower Mill River.
- ❖ The Amethyst Brook area with linkages eastward to the Amherst watershed in Pelham, the University's Cadwell Forest, and the Quabbin Reservoir.
- ❖ The Mill River-Puffer's Pond area with connections northeasterly along Cushman Brook into Leverett and north over Pulpit Hill and up the Eastman Brook watershed to the Leverett Knobs, Mt. Toby, and the Montague Wildlife Corridor.
- ❖ The Central Vermont Railroad (CVRR) Corridor from Main Street north through the Wildwood and Eastman Brook areas into Leverett.
- ❖ The Adams Brook area north from Pelham Road along the North East Street farms to Atkins Reservoir via the Banfield farm and on to Brushy Mountain in Leverett.

## **Section 4. Environmental Inventory & Analysis**



## Rare, Threatened, and Endangered Species

The following data were extracted from the Natural Heritage and Endangered Species Program database, and compiled in August, 2006 (MassWildlife, 2007).

**Table 10 – Massachusetts Endangered Species Act (MESA) and Federal Status Rare Species**

**Key: E = Endangered; T = Threatened; SC = Special Concern**

Group	Scientific Name	Common Name	MESA Status
Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC
Amphibian	Hemidactylium	Four-toed Salamander	SC
Amphibian	Carphophis amoenus	Eastern Worm Snake	T
Beetle	Cicindela purpurea	Purple Tiger Beetle	SC
Bird	Podilymbus podiceps	Pied-billed Grebe	E
Bird	Circus cyaneus	Northern Harrier	T
Bird	Accipiter striatus	Sharp-shinned Hawk	SC
Bird	Falco peregrinus	Peregrine Falcon	E
Bird	Bartamia longicauda	Upland Sandpiper	E
Bird	Poocetes gramineus	Vesper Sparrow	T
Bird	Ammodramus	Grasshopper Sparrow	T
Bird	Ammodramus	Henslow's Sparrow	E
Butterfly/ Moth	Apodrepanulatrix	New Jersey Tea	E
Butterfly/ Moth	Cingilia catenaria	Chain Dot Geometer	SC
Butterfly/ Moth	Eacles imperialis	Imperial Moth	T
Dragonfly/ Damselfly	Gomphus ventricosus	Skillet Clubtail	SC
Dragonfly/ Damselfly	Ophiogomphus	Brook Snaketail	SC
Dragonfly/ Damselfly	Stylurus amnicola	Riverine Clubtail	E
Dragonfly/ Damselfly	Stylurus scudderi	Zebra Clubtail	E
Fish	Notropis bifrenatus	Bridle Shiner	SC
Mussel	Alasmidonta heterodon	Dwarf Wedgemussel	E
Mussel	Alasmidonta undulate	Triangle Floater	SC
Mussel	Ligumia nasuta	Eastern Pondmussel	SC
Mussel	Strophitus undulates	Creeper	SC
Reptile	Glyptemys insculpta	Wood Turtle	SC
Reptile	Terrapene Carolina	Eastern Box Turtle	SC

## Section 4. Environmental Inventory & Analysis



## F. Scenic Resources and Unique Environments

(See Map 5: Scenic Resources & Unique Features)

### *Scenic Landscapes*

## Section 4. Environmental Inventory & Analysis

**Table 11 – Scenic and Unique Resources in Amherst**

<b>Wildlife Habitat</b>	<b>Noteworthy Feature(s)</b>
Lawrence Swamp	Popular birding and wildlife viewing area
Puffer's Pond to Leverett Wildlife Corridor	Wildlife migration route
Amherst College Wildlife Sanctuary and Grasslands	Popular birding and wildlife viewing area, trail networks
<b>Stream Corridors</b>	<b>Noteworthy Feature(s)</b>
Fort River Corridor	
Mill River Corridor	
Amethyst Brook Corridor	Tributary to Fort River.
Hop Brook corridor	
Plum Brook Corridor	
Cushman Brook Corridor	Tributary to Mill River
<b>Agricultural Land</b>	<b>Noteworthy Feature(s)</b>
Hampshire College Farmland	Block continues west into Hadley
North Amherst Agricultural Block	Contiguous block of active farms – extends north into Sunderland and west into Hadley
South East Street	Active farms to the east
North East Street	Active farms to the east
<b>Scenic Roads</b>	<b>Noteworthy Feature(s)</b>
Bay Road	Views of Mount Holyoke Range immediately to the south
Potwine Lane	Views of Mount Holyoke Range to south
Pomeroy Lane	
Middle Street	
Southeast and Northeast Streets	Active farms to the east with Pelham Hills beyond
Station Road	Open fields, active farms, wetlands
Harris Mountain Road	
Shays Street	



## Section 4. Environmental Inventory & Analysis

Scenic Roads	Noteworthy Feature(s)
Mill Lane	
Snell Street	Historic homes
Amity Street	Historic homes
Strong Street	Active farms, view of Pelham hills
East Pleasant Street	Historic homes
Henry Street	Salamander tunnels
Flat Hills Road	
Shutesbury Road	
Pine Street	Active farms, historic homes
State Street	
Pulpit Hill Road	
Market Hill Road	Views of Pelham Hills
Leverett and East Leverett Roads	View of Cushman brook, conservation land, open space
Sand Hill Road	
Major Viewsheds	Noteworthy Feature(s)
Bay Road	View south to Mt. Norwottuck, and north to UMass and northeast to Mt. Pollux
Bay Road and South East Street Junction	View north to Leverett over South East Street farmland
Station Road	View southeast to Mount Holyoke Range
South East Street	View east over Cowles Farm
Pomeroy Lane	View north across Poor Estate
West Pomeroy Lane	View north across Hickory Ridge Golf Course
East Hadley Road	View north of the Hadley/ Amherst town line toward Norwottuck Rail Trail
Station Road	View northeast across Sawmill Stud Farm
South East Street	View east to Fort River-Hop Brook confluence
Mill Lane	View north to Amherst College buildings
Belchertown Road	View east across Maplewood Farm to Pelham Hills
North East Street	View east across Hess and Amethyst Farms
North East Street- Strong Street junction	Views east to Pelham Hills
Strong Street	View north to Leverett
North East Street	View south from north end across farmland, view west across Wysocki farm



## Section 4. Environmental Inventory & Analysis

Major Viewsheds	Noteworthy Feature(s)
Flat Hills Road	View north across Ruder field at Market Hill Road
Pine Street	View southwest across Djiekanowski and Barkowski farms
Leverett Road	Views west across Cows and Fletcher-Howell properties
Route 63 Montague Road	Views east across Eastman Brook to Pulpit Hill
Route 116 Sunderland Road at Old Sunderland Road junction	Views southwest across farmland into Hadley
Meadow Street	View north past Auction barn, view west toward Mt. Warner

### *Unusual geologic features*

The town lies on a valley plateau within a circle of hills. The north-south spine of hills running through the middle of Amherst are glacial drumlins that became the islands of ancient Lake Hitchcock, formed as glaciers receded and covered much of the region. This ancient lake bed and the floodplain of the Connecticut River provide the area with fertile farmland. The most distinguishing geological features are the Connecticut River to the west and the Holyoke Mountain Range which borders Amherst on the south and defines the skyline from many locations within the Town. Both also provide many opportunities for recreational use.

Other important geological features include the following:

- Eastern Border Fault – located in northeast Amherst. The upthrust of the eastern side of this fault has eroded over time to create the Pelham hills.
- Rattlesnake Knob and Mt. Norwottuck traprock (basalt—former volcanic) summits, Mount Holyoke Range
- Bare Mountain summit and traprock (basalt) ledges, Mount Holyoke Range
- Mt. Pollux summit – drumlin
- North East Street drumlin north of North East Apartments
- Mt. Boreas – bedrock summit and adjacent slopes
- Pulpit Hill ledges
- Podick glacial outwash sand plain formation





## ***Cultural, archaeological, and historic areas***

Amherst, first settled in 1728 and founded as a colonial district in 1759, has a rich history. There are a total of nine areas designated as National Register Historic Districts (which includes a total of 327 structures) and nine individual properties on the National Register of Historic Places. Amherst was the home of the 19th Century poet Emily Dickinson, one of the most recognized American poets. The Dickinson Homestead is listed as a National Historic Landmark and is owned by Amherst College. Scenic roads and historic landmarks dot the community, with the Stockbridge House, oldest home in Amherst, built in 1728, located within the University of Massachusetts campus.

Mary Lyon, founder of Mount Holyoke College in 1837, was one of the first students at Amherst Academy, and lexicographer Noah Webster and pre-eminent 20th century poet Robert Frost are among those associated with nationally-known Amherst College. Founded in 1821, Amherst College is the oldest college in western Massachusetts and one of the oldest in the country. Four of the community's National Historic Register districts are clustered near the Central Business District, with the other four located in the Village Centers outside the downtown area.

The three major areas of archaeological importance in town include the Mill River Corridor, the Fort River Corridor, and Bay Road. Although there were no permanent settlements in Amherst until the 18th Century, this region was a hunting/gathering ground for many Native American tribes for centuries. Portions of the Mill River corridor, and Bay Road in its entirety were originally part of Native American trail systems, main thoroughfares, trade and war routes linking seasonal settlements west to the Connecticut River and east to other settlements and hunting grounds.

In 1716, the Hadley settlers established a roadway system directly over these two trails. One along "the Brookfield Road" (what is now Bay Road), and another along the Mill River/Cushman Brook corridor (then called the "Nashaway" (Nashua) Path). Once these roads were established, settlers began in the 18th and 19th centuries to construct mills, especially along the Mill River. This river offered many opportunities for mills given the large drop from east to west, although a few mills were also constructed along the Fort River, through east Amherst and parts of south Amherst. Remains of some of these mills can still be found today.

## **Section 4. Environmental Inventory & Analysis**



## ***Unique Environments***

As of April 2009, there were no state identified Areas of Critical Environmental Concern in Amherst (Massachusetts Department of Conservation and Recreation, 2009). However, the community has identified the following thirteen unique areas that help define the character of Amherst:

### **Mount Holyoke Range**

For years the Town of Amherst has worked with landowners, state agencies, land trusts, and the towns of Granby, Hadley, Belchertown and South Hadley to preserve the Mount Holyoke Range. Much of the area is now part of the Mount Holyoke Range State Park, operated by the Massachusetts Department of Conservation and Recreation. The park is known for miles of beautiful trails, scenic vistas, and habitat for many common and uncommon animals and plants. Significant parcels still remain vulnerable to development.

### **Lawrence Swamp and Hop Brook**

Long a focus of Town preservation efforts, the Lawrence Swamp contains more than 600 acres of protected land that is some of the most ecologically diverse in Amherst. The Hop Brook and extensive wooded wetlands characterize this water-rich resource. Lawrence Swamp contains a number of the town's wells, which tap a substantial local aquifer and provide Amherst with excellent drinking water. The area includes hundreds of acres of rich farmland. While most of Lawrence Swamp is under some form of preservation, a few hundred acres are still a high priority for the Town's land conservation efforts.

### **Bay Road Viewshed**

With the Mount Holyoke Range to the south, the Bay Road corridor is one of the most scenic viewsheds in Amherst. Orchards, farmland, and wooded wetlands characterize this beautiful area. A few small parcels remain unprotected.

### **Hampshire College Farmland**

Hampshire College maintains a significant number of acres of prime farmland both in Amherst and Hadley. For many years Amherst has continued to discuss options for the preservation of this land with college



## **Section 4. Environmental Inventory & Analysis**

officials. As part of the recently created Rivers to Range Initiative, the College's agricultural land provides an important connection between South Amherst and the extensive farmland off South Maple Street in Hadley.

### **Fort River Corridor (including Muddy, Plum and Hop Brooks)**

The Fort River and its tributaries help define South Amherst with rich farmland, extensive wetlands, and excellent wildlife habitat. This system is considered one of the most important watersheds state-wide for the diversity of fresh water mussels and includes one federally endangered species. Efforts to preserve more land and improve water quality in these streams are ongoing and are a major focus of the Town and many regional conservation organizations.

### **South East Street Farmland and Viewshed**

The farmland and scenic views to the Pelham Hills characterize South East Street and make it one of the most beautiful drives in Amherst. Of particular note are the natural and cultural amenities within this viewshed: the Norwottuck Rail Trail corridor, the Fort River, and the Hop Brook to the east.

### **Amherst College Sanctuary and Grasslands**

Amherst College has worked diligently during the past 20 years to develop management plans for their lands east of Route 116 in South Amherst. Their Sanctuary and extensive grasslands provide excellent habitat for a number of animals in close proximity to downtown Amherst. The College has built an extensive trail network that connects with the Norwottuck Rail Trail, providing students and the general public many opportunities to hike, run, and bike through the Sanctuary.

### **Amethyst Brook Corridor**

Amethyst Brook and its tributaries provide excellent cold water habitat for native fish including the Eastern Brook Trout. Surrounded by protected forest and farmland, efforts to protect additional acreage will focus on parcels with river frontage and parcel that complete large blocks of contiguous protected lands. The upper reaches of the Amethyst Brook watershed contain the small brooks and streams that supply our reservoirs in Pelham with a clean, consistent supply of water.



### **North East Street Farmland and Viewshed**

With excellent views to the east and west, North East Street is yet another example of preservation efforts in Amherst during the past 40 years. Most of the farm and forestland here is permanently protected but a few small parcels may be considered for future preservation.

### **Cushman Forest Reserve**

Located east of Henry Street in North Amherst this area contains one of the largest unfragmented blocks of forest land in Amherst. Known principally for the migration of mole salamanders through the tunnels installed for their safe passage under Henry Street, the area is characterized by dry, upland forest with bedrock outcroppings.

### **North Amherst Agricultural Block**

West of Route 116 in North Amherst lies one of the largest contiguous blocks of prime farmland in town. While much of this land and farmland just over the town line in Hadley is in the APR Program, some very large and significant parcels remain a priority for farmland preservation. The Mill River, Eastman Brook and Swamp Brook also add great ecological value to this region.

### **Mill River and Cushman Brook Corridors**

The Mill River below Puffer's Pond and the Cushman Brook above, form the core of an extensive greenway in North Amherst stretching from Leverett to Hadley. Both contain above-average water quality and are known for their recreational value to Amherst residents and visitors alike. This corridor is significant to many nesting bird species as well as any number of mammals including moose, turkey, deer and bear. The upper watershed of the Cushman Brook provides water to the Atkins Reservoir.

### **Puffer's Pond to Leverett Corridor**

This important wildlife corridor has long been identified by Amherst and Leverett as a high priority focus area. Most of the land around Puffer's Pond is protected, but hundreds of acres to the north are not in any local or state conservation program. An excellent opportunity exists to work closely with private landowners to preserve "working forests" in this section of Amherst.



## G. Environmental Challenges

The most significant environmental challenges that impact conservation lands and need to be addressed include control of invasive species, overuse and inappropriate use of conservation lands, and maintaining water quality and quantity in the various rivers, ponds, streams and wetlands found in Amherst.

### *Invasive Exotic Species*

One of the most critical environmental concerns facing the town is the abundance and spread of invasive exotic species. Exotic invasive plant species in particular have become a serious threat to the Town's biodiversity over the past decade. Some of the best known and most prevalent include purple loosestrife, multiflora rose, glossy buckthorn, and winged euonymus (firebush). In 1995, purple loosestrife was present on only two or three sites in town. There are now at least 20 documented invasion locations throughout Town, and all are growing. Many species that began their invasions and gained a foothold over the past 30 years have recently undergone tremendous population expansions.

The biological and economic cost to the Town of these invasive species is becoming evident, as their control is highly problematic. It takes an enormous amount of time and resources to control just one exotic species in a concentrated area, while eradicating them from a given site takes years of continuous efforts in the form of mowing, cutting, uprooting, and applying herbicides. In many cases, applying herbicides to cut stems is the only practical, effective way of ridding a site of a problem plant. In some cases, as with Japanese knotweed, four or more cuttings a year can deplete the plants' energy supplies and cause them to die out, but the work required is formidable. In field situations, multiple tractor mowings can weigh the competitive balance toward native grasses and forbs and away from multiflora rose, glossy buckthorn, winged euonymus, and autumn olive. But adjacent hedgerows and edges are now usually filled with the same species, which will continually try to migrate and re-establish themselves in the fields.

Over the past five years the Town has carried out various efforts to try to control invasive species, in some cases on Town land, in others on private land in partnership with owners like Amherst College, farmers whose land is under APR's, and small owners interested in preserving their own natural biodiversity. Grants from the Silvio O. Conte National Fish and Wildlife Refuge have paid for projects on a variety of areas. Volunteers working in cooperation with the New England Wild Flower Society and the Conservation Department have conducted various efforts to monitor and control invasive species. The Hitchcock Center, the Kestrel Trust, the Public Shade Tree

## Section 4. Environmental Inventory & Analysis



Committee, and the Conservation Commission have held public forums to help acquaint the public with the problem species and with current methods by which they can attempt to control them.

### ***Overuse & Inappropriate Use of Conservation Lands***

Amherst is blessed with an abundance of publicly-protected lands, but extensive, marginally-controlled use of these lands represents a growing problem for environmental resource and the community. Simple overuse of favored areas by local residents and regional users, increasing conflicts between user groups, and inappropriate activity by citizens accustomed to unencumbered and unregulated recreation in ‘their’ open lands—all of these are resulting in cumulative damage to the critical environmental resources Amherst’s residents have come to enjoy and take for granted.

Notable among the areas impacted by overuse or inappropriate use are the following two:

- ❖ Puffer’s Pond conservation area and adjacent conservation areas upstream and downstream of the pond—these areas are heavily used by nearby residents and people from across the region for swimming, small craft boating, stream dipping, fishing, dog walking, and hiking.
- ❖ Amethyst Brook conservation area—a favorite area for both hiking and dog walking.

In both areas, the combination of persistent, heavy use and conflicts between users who would believe that only ‘their’ preferred experience of the area is legitimate are leading to both sustained damage of the resource and increasingly heavy demands on land management personnel and police. In some cases, these problems become public safety issues.

The Town’s conservation lands represent a regional resource used by thousands of citizens from other western Massachusetts communities, as well as Amherst residents. Only significantly increased management and regulation of these and other well-used conservation lands will protect Amherst’s preserved lands and citizens’ future access to these lands. For example, a draft Puffer’s Pond Management Plan is in development, and a citizen committee is being formed to oversee the creation of proposals for new approaches to Town management of this conservation resource.

## **Section 4. Environmental Inventory & Analysis**



## ***Water Quality & Quantity***

### **Hazardous waste and brownfield sites**

- ❖ **North Amherst Center**  
Development in the floodplain in North Amherst Center (a former 19th century mill village) includes uncontrolled fill and automotive-related businesses immediately adjacent to the Mill River, uses which date from the early to mid 20th century.
- ❖ **Pelham Road & Fort River**  
Northeast Utilities owns and is in the process of cleaning up a WWII-era coal gasification plant site adjacent to the Fort River upstream of Pelham Road.
- ❖ **Amherst Depot Area**  
The area surrounding the historic Amherst Depot was the site of numerous 19th and early 20th century factories and includes some older buried fuel storage tanks.

### **Landfills**

Amherst has two closed landfills (both on Belchertown Road) and an active transfer station and recycling center. The older (unlined) landfill south of Belchertown Road was capped in the late 1980's and awaits further study of groundwater flows and methane containment. The site has been identified as a possible recreation area. The newer landfill was built, maintained and capped to more recent DEP standards.

### **Erosion**

The Mill River in North Amherst and its banks are prone to seasonal and chronic erosion. Steps were taken to arrest part of this problem during the 1980's along Pine Street but additional effort will be needed to stabilize erosion at the Mill River Recreation Area and along Meadow Street and Rt. 116. The Cushman Brook along East Leverett Road is also eroding its banks as it cuts to the North.

### **Chronic Flooding**

There are three areas in Amherst where major flooding occurs:

- Mill River/Swamp Brook confluence off Meadow Street in North Amherst
- Fort River at Hickory Ridge Country Club in South Amherst
- Fort River and Hop Brook Confluence – East of South East Street

## **Section 4. Environmental Inventory & Analysis**





## **Section 4. Environmental Inventory & Analysis**

In addition to the three main areas of flooding, beaver activity throughout town creates localized flooding that can cause as much damage as flooding from the Mill or Fort River.

### **Sedimentation**

The Conservation Commission supports an aggressive program of land use planning and ongoing management to prevent possible contamination of or water losses from the Town's groundwater supplies. The Conservation Commission will work closely with the Department of Public Works in terms of monitoring road and paved surface run-off and finding ways to appropriately address sedimentation and other pollutants which enter Amherst's waterways through the storm drainage system. The Department of Public Works also strives to implement the NPDES Phase II regulations, which require significant storm water and runoff mitigation for most construction projects and developments. Along with the Town's efforts to maintain the high quality of its surface water supplies by protecting streams and watersheds from siltation and contamination, Amherst will need to give increasing attention to the protection of both quality and quantity of the water recharged into its groundwater supplies.

### **Development Impact**

Amherst's extensive development review permitting process includes numerous regulatory steps (zoning, health, wetlands) whereby impacts on water supply and quality can be prevented or mitigated.

### **Ground and Surface Water Pollution**

Research is needed into the groundwater impacts of existing and historic brownfield sites, as well as ongoing monitoring of changes in potentially polluting land uses such as intensive cropping or feedlots.

### **Impaired Water Bodies**

Amherst is fortunate to have a relative abundance of both surface and subsurface water supply. The Mill and Fort Rivers as well as their tributaries crisscross the town providing water resources for human use and wildlife. Amherst only has a few ponds of any significant size – Puffer's, UMass Campus, Epstein's and some small old mill/farm ponds. Although the overall health of the Mill and Fort Rivers is relatively good, there is ample evidence that water quality and overall aquatic health of smaller tributaries in town suffer from increased levels of siltation. Testing conducted in 2007 of water quality in the Fort River indicated levels of phosphorus well above acceptable standards.



## Section 4. Environmental Inventory & Analysis

The public health and environmental impacts of beaver activity resulting from the current lack of viable population control alternatives includes damming and the creation of new channels, and cannot be understated.

The following bodies of water will require further study:

- Mill River below North Amherst Center- water quality and quantity
- Fort River water quality and quantity
- Puffer’s Pond- siltation, Giardia, erosion, over use
- Tan Brook- water quality
- UMass Campus pond- water quality, erosion and sedimentation
- Plum Brook- siltation and water quality
- Hop Brook- siltation
- Cushman Brook in the vicinity of Haskins Meadow – beaver ponding and increased water temperature impacts on unique cold water stream habitats downstream

Given the implications of climate change, such as less frequent but more severe storm events and early spring melting of snowpack in the upper reaches of local and regional watersheds, water quality may also become an issue in town. The Conservation Department is committed to researching issues related to “minimum flows” and water withdrawals on the Fort and Mill Rivers.

### ***Forested Lands and Timber Management***

The Town of Amherst owns nearly 2,600 acres of forested land to protect surface water supplies. The watershed lands, whether in-town or in neighboring communities, are managed to maintain water quality through selective forestry and timber harvesting, with the additional benefits of providing wildlife habitat and informal areas to recreate. Motorized vehicles and all formal recreation areas such as trails and playing fields are prohibited on watershed lands. The only exception is the well-traveled and historic route of the Metacomet & Monadnock (M&M) Trail as it crosses through the Pelham Reservoir System watershed. Watershed lands are considered restricted open space and allow only informal passive or traditional consumptive forms of recreation such as walking, bird watching and hunting which do not threaten the integrity of the water resource. The Town of Amherst prevents trails from developing on protected watershed lands by restricting access with perimeter “No Trespassing” signs, gated entries along access roads, partnerships with the local Police Departments, and weekly windshield inspections with semiannual site visits. These measures have been used successfully to maintain the nearly 2,600 acres of forested land the Town owns in Amherst, Shutesbury and Pelham.



## Section 4. Environmental Inventory & Analysis

Guiding the Town's actions is a long-term (10 year) forest management plan. The plan's goals are to produce continual income (both short-term and long-term), enhance wildlife habitat, protect soil and water quality, and produce forested lands that maintain a balance of new growth and mature trees, and a variety of soft and hard wood species. The plan also strives to limit the spread of invasive species and preserve tree canopy to maintain the high water quality entering Amherst's drinking water supply. By managing timber to maintain water quality, sensitive ecological areas and the medium-yield aquifer located near the reservoirs will be protected from future development and agricultural uses.

As part of Amherst's long-term forest management plan, the Town's land manager works with a licensed forester to develop annual cutting plans for individual properties (and specified areas). When developing these annual plans great care is taken to minimize the impact to the environment: trees marked prior to harvesting; filter strips are used along wetlands or sensitive areas; skid trails are matted with slash; and harvests are timed to occur during frozen or dry conditions to protect the hydrologic resources of a property. Matting and slash are also frequently used to stabilize stream crossings, and portable bridges are used where necessary. Regeneration of saplings is protected by proper skid road layout, directional felling, and the use of a forwarder. The methods used for such selective natural harvesting ensures that the Town will continue to have a viable forestry operation.

### ***Environmental Equity Issues***

All of the residents of Amherst, including those belonging to identified environmental justice populations, have access to and many opportunities to enjoy the extensive protected open space in town. However, as noted in Section 9, the Seven-Year Action Plan, the Town intends to increase the amount of local neighborhood parks, especially areas with facilities for families; expand active recreational land close to population centers; and increase connectivity of conservation and recreation lands so that pedestrians can access these areas without driving. All conservation areas are free of charge and many are located along public transportation routes. Even the parks and recreation areas that may charge a nominal fee for use during the summer or for participation in sports leagues are subsidized by the Leisure Services and Supplemental Education Department to ensure that the activities are affordable for all residents.

According to the 2000 U.S. Census, there are a number of census block group areas that qualify as having environmental justice populations that meet one, two and three of the state's criteria. Due in large part to the university and colleges in Amherst, there is a broad spectrum of nationalities and ethnicities



living in the community. Many students are now counted toward the Town's resident population even though they may not live here for the long-term. As students with limited employment and income, their reported earnings are significantly lower than the statewide median income. Similarly, many international students consider Amherst their home while they are attending these institutions, skewing the number of foreign-born and immigrant populations present year-round in Amherst or as long-term residents.

However, many students remain in Amherst or nearby communities after graduation and continue to live and/or work in Amherst and become fully integrated into the fabric of the community. As seen in Map 2, the Environmental Justice (EJ) populations of Amherst are distributed proportionally across town, with populations meeting two or more criteria concentrated around UMass and the colleges. The EJ populations live in the same village centers and town center alongside the remaining residents, and have access to the same utilities, infrastructure, and open space amenities.

## **Section 4. Environmental Inventory & Analysis**



## **Introduction**

(See Map 7: Inventory of Lands of Conservation & Recreation Interest)

(See Appendix A: ADA Action Plan & 2006 Transition Plan Update)

The following Section provides an inventory of the various levels of protected land in the Town of Amherst by identifying and examining the degree of protection of a variety of private, public, and non-profit owned parcels.

The inventory is intended to provide the reader with a general overview, in narrative form, describing the various classifications of both permanently protected and partially protected lands in the Town of Amherst. The accompanying map has been prepared to illustrate the arrangement, context, and levels of protection of the open space land within Town. Lastly, this inventory provides a detailed matrix (See Appendix B: Inventory of Protected Lands) containing parcel specific information such as map and parcel numbers, acreage, ownership, and recreation potential.

Parcel specific information has been extrapolated from the Town of Amherst Tax Assessment records and has been cross referenced when possible with the Registry of Deeds. The Town's Geographical Information System was used to create the map and elements of the detailed matrix.

For the purposes of this inventory, the types of land are discussed in terms of Private, Public and Non-Profit ownership. The primary objective is to examine the valuable open space in the Town and identify whether it is permanently protected, partially protected or not protected.

### ***Protected Open Space***

A significant amount of land, approximately 5,300 acres representing 30 percent of Amherst's surface area (total land area equals 17,765 acres), is permanently protected open space. The permanently protected lands range from Town-owned conservation land with public access to privately owned land with Conservation Restrictions to land owned by the Commonwealth of Massachusetts such as much of the Mount Holyoke Range. The permanently protected land is distributed throughout town so that it is only a short walk from the village centers or town center until one can enjoy the preserved open space or walk along the network of trails that connects many conservation areas in town.



## Section 5. Inventory of Lands of Conservation and Recreation

The environmental justice populations, like the remaining residents of Amherst, have many opportunities to enjoy the protected open space in town. However, as noted in Section 9, the Seven-year Action Plan, the Town intends to increase the amount of local neighborhood parks, especially areas with facilities for families; expand active recreational land close to population centers; and increase connectivity of conservation and recreation lands so that pedestrians can access these areas without driving. All conservation areas are free of charge and many are located along public transportation routes. Even the parks and recreation areas that may charge a nominal fee for use during the summer or for participation in sports leagues is subsidized by the Leisure Services and Supplemental Education Department to make the activities affordable for all residents.

**Table 12 – Protected Lands in Amherst, 2009**

Type of Open Space	Number of Parcels	Total Acreage
Permanently Protected		
Town Conservation Areas	156	1,828
Commonwealth of Massachusetts	44	935
APR Land	56	2,038
Conservation Restrictions	23	170
Recreation Areas and Parks	10	126
Water Department	17	310
<b>Subtotal of Permanently Protected</b>	<b>306</b>	<b>5,407</b>
Partially Protected		
Chapter 61	185	2,640
Subdivision Open Space	6	75
Schools	16	108
Private Land Trusts	50	272
<b>Subtotal of Partially Protected</b>	<b>257</b>	<b>3095</b>
<b>TOTAL</b>	<b>563</b>	<b>8,502</b>

### *Permanently Protected Open Space*

Permanently protected open space is land set aside for conservation, agriculture or active and passive recreation purposes. Open space land includes parcels protected from development and managed by the Conservation Department and Conservation Commission; Town-owned parcels not intended for sale or development but managed by an organization other than the Conservation Commission; parcels owned by the State or Federal government; quasi-public; and private properties.



## **Section 5. Inventory of Lands of Conservation and Recreation**

### **Town Conservation Lands - Public ownership**

(See Appendix B-1: Town Conservation Lands)

These areas are open lands permanently protected for a wide range of uses including preservation of wildlife habitat and corridors, safeguarding important viewsheds and community character, and providing opportunities for active and passive recreation, and outdoor education. Town-owned conservation land benefits the flora and fauna of Amherst as well as adding to the quality of life enjoyed by residents and visitors.

The Town of Amherst currently has 1,828 acres designated as Town Conservation Land.

### **Commonwealth of Massachusetts – Public ownership**

(See Appendix B-2: State-owned Land)

The State owns a significant amount of contiguous land in the Mount Holyoke Range as a means of permanently protecting this unique natural resource found in southern Amherst and neighboring communities. These lands are open to the public and include park roads, trails and the Notch Visitor Center on Route 116, which welcomes the masses of tourists and outdoor enthusiasts who enjoy the Range.

The Commonwealth of Massachusetts currently owns and manages 935 acres in Amherst.

### **Agricultural Preservation Restrictions (APR's) – Private ownership**

(See Appendix B-3: APR Lands)

The APR program allows the State, Town, or combination of the two, to purchase the development rights on farmland in order to preserve the land's use for agriculture. This voluntary program buys the development rights from the farmer or landowner, which is the difference between the fair market value of the land and the agricultural value of the property.

The Town of Amherst currently has 2,038 acres designated in Agricultural Preservation Restrictions.





## Section 5. Inventory of Lands of Conservation and Recreation

### **Conservation Restrictions (CR's) – Private ownership**

(See Appendix B-4: CR Lands)

Private property can be permanently protected open space if there is a conservation restriction placed on the property. These are development rights held by the State with additional restrictions held by the Town. It ensures that land will remain in its natural, open condition. This is a voluntary program entered into by landowners.

The Town of Amherst currently has 170 acres of land designated in Conservation Restrictions.

### **Town Parks and Recreation Areas – Public ownership**

(See Appendix B-5: Town Parks and Recreation Areas)

The Town owns and manages just seven areas designated as a park or recreation facility: Mill River Recreation Area, Plum Brook, Community Field, Groff Park, Markert's Pond, Kiwanis Park, and the Cherry Hill Golf Course. (See Appendix C-10: Optional Map J—Parks, Open Space and Recreation Facilities).

These areas include more formalized land uses focused on providing the community with a range of active recreation opportunities including mixed-use playing fields, swimming pools, and playgrounds. These areas often contain parking and other facilities used by residents, non-residents and organized groups.

The Town of Amherst currently has 126 acres of land designated as Town Recreation Areas, but it must be noted that 66 of those 126 acres are part of the Cherry Hill Golf Course, a nine-hole municipal course. This reduces the amount of land used for active recreation, organized sports, and other activities to 60 acres.

### **Town Commons – Public ownership**

Amherst has three Town Commons located within the more densely settled areas of the Town Center, East Village, and South Amherst Village Center. These areas cannot support heavy use from organized sports or recreation, but are best enjoyed for passive recreation and informal activities.

The Town of Amherst currently has 7 acres of land designated as Town Common.



## ***Partially Protected Open Space***

Partially protected open space can be property with types of deed restrictions limiting development to certain areas; open space that cannot be developed for a specific term or time period (i.e. conservation restrictions may apply for only 30 years); and land that may be currently protected but does not have regulations ensuring its permanent protection, such as institutional land holdings.

### **Chapter 61 land - General**

Land in this classification is voluntarily committed, by the landowner, to be used temporarily for agricultural, forest or recreational use in exchange for a reduction in taxes paid to the local municipality. Parcels taxed under the Chapter 61 (Forestry), Chapter 61A (Agriculture), and 61B (Recreation) tax classification are in private ownership and are not protected open space areas. The tax classification enables the lands to be taxed at their use value rather than the full fair market value. The Town has the right of first refusal if the parcels are sold prior to the expiration of the tax abated status. Owners of land classified under Chapters 61, 61A, and 61B must notify the Town before selling or converting the land to another use. This allows the Town to protect individual open space parcels as they enter the market or become threatened by development.

The Town of Amherst currently has a total of 2,640 acres in the three Chapter 61 land classifications.

### **Chapter 61 – Private ownership**

(See Appendix B-6: Chapter 61 Lands)

Known as the “Forestland Tax Law,” Chapter 61 helps maintain open land by providing tax benefits to maintain forests. This program is for properties of contiguous forestland of ten acres or more and is administered by the Massachusetts Department of Conservation and Recreation.

The Town of Amherst currently has 1,037 acres of land designated as Chapter 61 land.

### **Chapter 61A – Private ownership**

(See Appendix B-7: Chapter 61A Lands)

Chapter 61A classification is for lands used primarily for agriculture or horticulture. Land in agricultural use is defined as land primarily used in

## **Section 5. Inventory of Lands of Conservation and Recreation**



## **Section 5. Inventory of Lands of Conservation and Recreation**

raising animals, which includes everything from cattle to bees to fur-bearing animals. Land in horticultural use is land used for growing anything from fruit to vegetables to ornamental shrubs.

The Town of Amherst currently has 1,485 acres of land designated as Chapter 61A land.

### **Chapter 61 B – Private ownership**

(See Appendix B-8: Chapter 61B Lands)

Chapter 61B is designed to promote conservation of open space and recreational lands. To qualify for the program, a landowner must have at least five acres retained in a substantially natural, wild, open, pastured or landscaped condition. Recreational use includes hiking, camping, golfing, horseback riding, skiing, swimming and others specified in the Chapter 61B statute.

The Town of Amherst currently has 118 acres of land designated as Chapter 61B land.

### **Subdivision Open Space**

(See Appendix B-9: Subdivision Open Space)

Through zoning regulations and requirements of residential developments, Amherst has been able to protect land on approximately 50 properties. Although the land is currently preserved because of the existing land use regulations, future changes and amendments to local and state regulations could mean that at least a portion of these properties could be development.

The Town of Amherst currently has 272 acres of land designated as Subdivision Open Space.

### **School Property – Public ownership**

(See Appendix B-10: School Property)

Amherst has two distinct school systems: the local Town School Department and the regional school district. The School Department owns and manages the land at the elementary schools while the Amherst Pelham Regional School District controls land at the middle and high schools. This distinction, perhaps undifferentiated when talking colloquially about primary and secondary education in town, is critically important when assessing the amount of school land available for recreational use. The



## **Section 5. Inventory of Lands of Conservation and Recreation**

regional school land, because it is not Town-owned property, is not always available for use by LSSE, and more recently, is off limits to summer sports.

Therefore, the properties owned and managed by the School Department are in high demand and used for a variety of activities, such that playing fields commonly ‘overlap’ on a given parcel. The schools provide fields and indoor space for softball, Little League, soccer, Ultimate Frisbee, football, lacrosse, volleyball, dodge ball, and others. The more flexible a field or facility is to accommodate different activities the more likely it is to suffer from overuse and neglected maintenance.

The Town of Amherst currently has 127 acres of land designated as School property, which includes both the Town schools and the Regional schools. The Town schools occupy 67 acres while the regional schools total 60 acres. Even this acreage can be teased apart because much of the school property is building and parking lots, and cannot be used for recreation. When excluding these areas, the schools provide Amherst with a total of 45 usable acres, 23 acres spread across six town school sites and 22 acres at regional middle school and high school. (See Appendix C-11: Optional Map K—School Fields and Playgrounds).

### **Tax Exempt Property**

(See Appendix B-11: Tax Exempt Property)

Amherst contains 6,017 acres of tax exempt property (33.875 percent of all land in Amherst). These parcels include non-profit organizations (local land trusts), private recreation land, and major institutional holdings at the colleges and university in town. The tax exempt parcels are privately owned and in most cases are not protected open spaces. Many of these properties contribute to the town character and provide recreational uses. (See Appendix C-12: Optional Map L—Tax Exempt Land).



## **A. Description of Process**

To guarantee that this plan accurately reflects the needs, desires, and concerns of Amherst citizens, a series of public meetings were held throughout town between June 2007 and March 2008 to coincide with the recent master planning process. During this time, presentations were made to the Agricultural Commission, Select Board, Planning Board, Conservation Commission, and Leisure Services and Supplemental Education (LSSE) Commission. A workable draft of this plan was also presented to these same boards and committees in the spring of 2009 at public meetings to ensure the integration of their input and that of Amherst residents.

To kick off the citizen participation component of this plan, two public meetings were held in June 2007. Specific-interest groups were invited to the meetings through a mailed invitation and email. These groups included members of the Agricultural Commission, Conservation Commission, LSSE Commission, and the Open Space and Recreation working group of the Comprehensive Planning Committee, which helped create Amherst's 2008 Draft Master Plan. Various activities designed to gather thoughts and ideas were used at these meetings, including: an exercise where participants were asked to identify priority parcels; break out groups; and question and answer sessions. Meetings were held at various locations across town as a means of attracting a wide audience. Additional priorities were gathered through discussions among town staff in the Conservation, Planning, LSSE, and Public Works departments.

The recent master planning process, Planning Amherst Together, provided a valuable resource for public input that helped inform the goals, strategies and actions of this plan. Many opinions and suggestions were gathered using web-based questionnaires and tools "designed to develop and carry out a public process that achieves broadly based, informed, and thoughtful consideration of the crucial issues confronting Amherst" (Draft Master Plan, 2008). Working groups, other related public meetings, a community survey, and an open house were integral components that helped generate Amherst's 2008 Draft Master Plan. The Open Space and Recreation Working Group formed as part of Planning Amherst Together discussed current conditions and strategies necessary to achieve community-wide goals, and their comments have been incorporated into this plan.

In order to reach residents who could not attend the meetings, an Open Space and Recreation Plan webpage was hosted on the Town's website from March to June, 2008 and from February to June, 2009. Newsflashes and other media were used to direct the community to the webpage, which included the individual text sections of the report, relevant maps, and an online comment-form so that suggestions and opinions could be submitted electronically to the



Conservation Department. The Department also welcomed comments in writing, by phone or through email.

## Section 6. Community Vision

### **B. Statement of Open Space and Recreation Goals**

Amherst attracts and retains residents who deeply value their quality of life and who have a great commitment to preserving the area's unique landscape and character. This character encompasses not only a diversity of cultural experiences, economic pursuits, and scenic beauty, but opportunities for outdoor recreation and enjoying the physical side of life. It is important for many to preserve and enhance these resources for current and future residents. Given Amherst's regional appeal, it is essential to develop general open space and recreation goals to address these concerns. The goals are as follows:

- ❖ Protect farmland and prime soils, and thus enhance Amherst's rural character and agricultural viability.
- ❖ Focus land preservation efforts in areas identified as priority habitat (for rare and endangered species), containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.
- ❖ Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.
- ❖ Expand and connect existing preserved land and trail system to make a greenway network throughout town.
- ❖ Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.
- ❖ Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.
- ❖ Increase land area available for active recreation in Amherst.
- ❖ Improve stewardship of conservation lands and trails.



## **A. Summary of Resource Protection Needs**

The Amherst community and the Town have expressed a great commitment to preserving the area's unique landscape and character. Since 1963, the Town has been acquiring land for conservation. Today a total of 5,311 acres, or 30 percent of the Town of Amherst's total land area, is permanently protected land. The amount of preserved land in Amherst belies the vulnerability of undeveloped parcels, especially when a 2002 build out analysis determined that a significant amount of new homes could be constructed outside the existing village centers. The Town is committed to protecting more land, which will help to preserve the community's open space and recreational opportunities even as new growth occurs.

Establishing strategies and implementation methods to protect Amherst's valuable natural resources are often coupled with projects that seek to accommodate the increasing need for more recreational facilities and opportunities. The Conservation Commission, with help from various town staff and departments, and through a valuable public input process, has determined the following to be Amherst's most urgent resource protection needs:

- ❖ To support the local farming community;
- ❖ To expand large blocks of existing preserved lands;
- ❖ To make an interconnected trail system through innovative land use policies and zoning;
- ❖ To acquire property for the protection of wetlands, the Town's drinking water supply, and to provide areas for the flood storage; and
- ❖ To manage Town land and facilities to maximize their value for wildlife habitat, recreation, scenery, natural resource preservation, and the enhancement of the Town's appearance.

### ***Local Farming***

Through community surveys conducted during the development of the Open Space and Recreation Plan, and through citizen participation during the recent Master Planning process, it became apparent that the Town has managed growth largely through aggressive conservation land acquisition and reactive 'stop-gap' zoning measures; two methods that are not sustainable. Amherst's historic settlement pattern of compact mixed-use village centers separated by





## Section 7. Analysis of Needs

working landscapes is changing. Despite the aggressive land acquisition policies, a third of Amherst's farmland and forests have been developed since 1971. Single-home construction undermines Amherst's valuable farming industry, historic character and its economy. As farm fields transform into frontage lots or large-lot subdivisions, once historic rural routes bear near-constant traffic while increased land values make farming less and less profitable. Even a single development, which may happen too quickly for public outreach or open space preservation, can completely alter the viability of a small-scale farming operation and change the entire view-shed, even if most of the land is protected.

The many farming operations in Amherst need protection from private development, dramatic changes in land use, and sale of land without consideration of the possible alternatives such as conservation restrictions, agricultural preservation restrictions, Chapter 61, mixed development scenarios, or acquisition by the state or the Town for open space preservation.

The primary need is to complete the major blocks of land now preserved and protected under Agricultural Preservation Restrictions to maintain a local viable farming industry. With close to 2,000 acres under protection, the Town has a significant agricultural base, but it is important to complete protection of the major farm blocks to maintain their integrity, prevent incursions by residents who might object to farm activities, noise, or odors and provide an intact reservoir of available land as the local and regional farm economies change. The recently adopted Right-to-Farm bylaw helps promote agriculture-based economic opportunities, and protects farmlands within the Town of Amherst by allowing agricultural uses and related activities and promoting efficient conflict resolution with abutters and Town agencies.

Two areas with significant farm blocks are along North East Street and Bay Road. The large-scale farming operations along North East Street, which runs north-south in east Amherst, have sustained farmers for generations. Recent development threatens the ability of these farms to continue operating in the future. The Bay Road corridor in South Amherst along the Mount Holyoke Range, which offers a glimpse into the agrarian livelihood that once thrived in the community, is also under threat from development and increased land values. In addition to the presence of farming operations, this corridor began as a Native American trail and has seen continuous use since colonial settlement—a valuable resource that needs protection.

### ***Preserved Land***

Shortly after acquiring property to protect watershed lands, the Town began its open space and farmland protection efforts with purchases along the Mill River in 1963. Since then, Amherst has amassed 1,828 acres of conservation



## Section 7. Analysis of Needs

land, and the Conservation Department has been integral to the acquisition of Agricultural Preservation Restrictions on 1,834 acres of farmland on 32 properties and an additional 170 acres protected by Conservation Restrictions.

Amherst has gradually acquired conservation lands that would eventually constitute a system of fully protected blocks of wildlife habitat and green space, with correspondingly high scenic, recreational, and educational value. Just as the Town continues to preserve blocks of active agricultural lands, there is an urgent need to protect and expand large blocks of existing open space. Identification and prioritization of these lands has determined the following sites to be critical to wildlife habitat, natural resource protection, and community enjoyment:

Pulpit Hill: the area north of Pulpit Hill Road bounded on the east by the New England Central Railroad, on the north by the Leverett town line, and on the west by Route 63. Already protected are the 57-acre Eastman Brook Conservation Area, the 10-acre Cousins-Wood complex just east of the railroad, the 5-acre Parsons Conservation Area, the 40-acre Patteson property, and the 90-acre Cherry Hill Golf Course and adjacent Cherry Hill Co-Housing land protected by Conservation Restriction.

Cushman Brook green belt: the area along Cushman Brook between East Leverett Road and Market Hill Road. Already protected are the 51-acre Haskins Meadow Conservation Area (Amherst and Shutesbury), a 5-acre parcel next to the brook midway along East Leverett Road, and the 28-acre Cushman Brook Corridor property.

Plum Brook green belt: the area along Plum Brook from Middle Street and Chapel Road north to Pomeroy Lane, Pomeroy Court, and West Street. Already protected are the 37-acre Plum Springs Conservation Area, the 8-acre Leslie Farm Conservation Area, nearly 30 acres of protected land in the Plum Brook Conservation Area south and north of Pomeroy Lane, the 18-acre Simmons Farm Conservation Area off Middle Street, the 12-acre Westover Meadow Conservation Area, and the Plum Brook South Conservation Area and Plum Brook Recreation Area south of Potwine Lane.

The Mount Holyoke Range, including land south of Bay Road from the Belchertown line to the Hadley line: The original goal for purchases of state park land on the Range was to secure all land above the 450-foot contour line. Present goals are to complete land protection above the 450-foot contour, and to add land below that line down to as near Bay Road as possible so as to prevent development that would significantly mar the area's largest unbroken forested landscape, shared by Amherst, Granby, Hadley, South Hadley and Belchertown.



## ***Watershed Protection***

Amherst has a strong history of land preservation and stewardship. For decades, the community has been keenly aware of the value of preserved land for watershed protection, recreation opportunities, supporting the local farming community and for the protection of wildlife and habitat. Beginning in 1940, the Town acquired more than 2,000 acres of land in Shutesbury and Pelham from the Amherst Water Company to protect its surface water supply reservoirs. The Town now holds approximately 2,600 acres in Amherst, Belchertown, Pelham, and Shutesbury to protect local watersheds that supply Amherst with much of its drinking water.

The Town water supply system currently has seven sources that include the Atkins Reservoir in Shutesbury and Amherst, the Pelham Reservoirs (Hills, Hawley, and Intake), the South Amherst Wells (#1 & #2), The Brown Well (#3), the Lawrence Swamp Well (#4) and the Bay Road Well (#5).

### **Surface Water Supply: Atkins Reservoir, Pelham Reservoirs**

The two reservoir systems, Atkins Reservoir and the Pelham Reservoirs, provide Amherst with approximately half its drinking water and form the Town's surface water drinking supply. Atkins Reservoir, located in northeast Amherst and Shutesbury, is the Town's largest surface water supply with a surface area of 51 acres, a capacity of approximately 200 million gallons of water, and a drainage area of 5.7 square miles. The Pelham Reservoirs are three individual water bodies formed by impounding streams draining into Amherst and with a combined surface area of about 18 acres. The drainage area of these reservoirs covers approximately 6.2 square miles with 18.5 miles of streams in the hills of Pelham east of Amherst.

Even with the large amount of preserved land surrounding Amherst's surface water supplies, minimal changes in the land use, impervious surface coverage, and forested land within a watershed can greatly alter water quality. Scattered development and frontage lot construction threaten Amherst's drinking water. The Conservation Commission, aware of the need to protect the Town's water supplies, actively supports appropriate measures that will preserve both underground aquifers and their recharge areas, and above-ground reservoirs and their watersheds. The Commission endorses cooperation and assistance with neighboring towns, acquisition of private property, conservation restrictions, and implementation of forestry management plans to maintain the ecological integrity of land surrounding Amherst's surface water supplies.

The importance of these surface water supplies cannot be underscored enough, as they are uphill from Amherst and supply not only the Town's

## **Section 7. Analysis of Needs**



## Section 7. Analysis of Needs

drinking water, but feed the many streams that flow through the community. Atkins Reservoir is two miles upstream from Puffer's Pond, a popular conservation and recreation area; such that the preserved land surrounding the reservoir helps preserve the water quality of the Cushman Brook and Puffer's Pond.

Areas in Amherst within the Atkins Reservoir watershed are within the Town's Watershed Protection overlay district to protect the quality of ground and surface water entering the drinking water supply. A grant awarded by the Massachusetts Department of Environmental Protection (DEP) helped fund the development of a Surface Water Protection Plan, which identifies the potential sources and pathways of contamination and provide a plan to reduce nonpoint discharges to surface waters.

In 2002 the Town purchased a 37-acre wooded parcel in Pelham from Willem vanPelt to protect land adjacent to Amherst watershed property in Pelham. Sixty percent of the cost came from a grant from the State Aquifer Land Acquisition Program. A 2003 grant award from Massachusetts DEP helped improve the forestry management plan for lands surrounding the reservoirs and provided funding for the development of a surface water protection plan for the Pelham Reservoirs. In 2006, about 30 acres of critical land (Bray property) in Pelham were purchased for \$215,000 by the Water Fund. This property contained 2 feeder streams to Hawley Reservoir and was purchased to prevent residential development.

### **Ground Water Supply: Wells in Lawrence Swamp**

Almost half of Amherst's drinking water comes from ground water supplies located in South Amherst and in Belchertown. Much of the land surrounding the wells is protected by the Aquifer Recharge Protection zoning overlay district described earlier in this report. This zoning district has strict development requirements requiring clustering of homes and onsite storm water infiltration and management.

The Conservation Commission, in addition to other Town Departments, actively pursues the preservation of land and open space within the Lawrence Swamp drainage basin to protect the ground water supplies. A 2003 grant from the Massachusetts DEP helped fund:

- An educational program for the elementary schools in Amherst regarding groundwater protection,
- Two additional groundwater monitor wells in Lawrence Swamp, and
- The development of a wellhead protection for Wells 1, 2, 3, 4 & 5.



## ***Trails and Greenways***

The Conservation Department manages and maintains an extensive trail network covering 80 miles of paths in Amherst alone, and helps maintain regional trails that extend through the neighboring communities of Shutesbury and Leverett. This trail network includes a hierarchy of three integrated systems that help make Amherst a walkable community:

- ❖ Major Regional Trails, which also includes an interstate trail
- ❖ Local Trails
- ❖ Local Literary Trails

### **Major Regional Trails**

There are four regional trails that crisscross Amherst, connecting it with outdoor areas such as the Mount Toby Reservation in Sunderland, the Mount Holyoke Range, and with community destinations such as downtown Northampton. These trails include the Metacomet and Monadnock (M&M) Trail, K.C. Trail, Robert Frost Trail, and the Norwottuck Rail Trail. The Norwottuck Rail Trail is a paved path heavily used by cyclists, pedestrians, families, commuters, and tourists. The Town of Amherst includes a large portion of the 8.5 mile Norwottuck Rail Trail which connects Northampton, Hadley and Amherst, and provides users with excellent opportunities for biking, rollerblading, walking, and cross-country skiing. Numerous long-distance hiking trails such as the Metacomet-Monadnock and Robert Frost Trail also provide outstanding opportunities for walking and hiking.

### **Local Trails**

Most of the trail mileage in Amherst can be walked along local trails that connect the Major Regional Trails with local conservation areas, the village centers, recreational facilities and existing neighborhoods. These trails, like the Regional Trails, are in constant need of maintenance from overuse, degradation from the climate, and age of the infrastructure and facilities.

### **Local Literary Trails**

The literary trail system recognizes the connection between Amherst's literary tradition and its beautiful and diverse landscape. Over a dozen trails named after authors, poets and artists that have lived in Amherst bring outdoor enthusiasts to the many special places and refuges found in the community. The implementation of this trail system connects

## **Section 7. Analysis of Needs**



residents and visitors to the character of Amherst's natural resources and teaches them about an important element of the Town's cultural history through interpretive signs, and a literary trail guide and brochure.

The challenge, however, is to maintain this trail network so that people of all abilities can enjoy the local amenities, and to find ways to link these major biking and walking trails with local trails, the parks, public schools, and town centers. By looking for opportunities to acquire land to connect trails, LSSE and the Conservation Commission can provide residents with access to a network of trails to reduce reliance on cars for transport to places to play and recreate.

In addition to creating connector trails by securing easements allowing public access on private property or through outright acquisition, the Conservation Department needs an expanded trail crew and increased staff support. The Department now has one seasonal trail crew, funded roughly 50 percent by Town funds and 50 percent from donations. Ideally, to maintain a further-expanded trail system adequately, the Department should develop two small, separate trail crews. One seasonal crew is necessary to do all the basic annual brushing out, mowing, and other light, high-speed maintenance of trails in the system. Especially in a wet year, that work must go on constantly, especially in view of the aggressive invasive plants that overwhelm trails, especially those that are not in shaded forest settings (multiflora rose, oriental bittersweet, winged euonymus or burning bush, autumn olive, glossy buckthorn, Japanese barberry, Japanese knotweed, and others). A second crew, ideally a year-round group, would work on larger construction and maintenance projects – bridge building and replacement, painting timber fences and steel bridges, construction of accessible trails, construction and placement of signs, and the like. Because of tight Town finances, much of the cost of the two trail crews will need to be borne by grants and donations.

## **B. Summary of Community's Needs**

During the past thirty years, the Town has acquired 126 acres of active recreation land. These parks and areas are referred to as Mill River, Plum Brook, Community Field, Groff Park, Markert's Pond, Kiwanis Park, and the Cherry Hill Golf Course. The acquisition of these community spaces has been possible due the multitudes of partners that have helped Amherst over the years: local land trusts and organizations, adjacent towns, state agencies, and federal programs. It is important to note that not all of the parks were purchased from private landowners with intention of creating recreational open space. Groff Park, for instance, was gifted to the Town, while Kiwanis Park was town-owned property converted to recreational land after Amherst no longer needed it for other uses.

## **Section 7. Analysis of Needs**





## Section 7. Analysis of Needs

The limited number of existing facilities needs to be maintained and renovated, and new facilities need to be added to Amherst's inventory of recreational lands. Strained budgets and insufficient resources have meant that the recreational facilities do not receive the maintenance and upkeep required to keep them fully ADA compliant or as enjoyable and aesthetically pleasing as they could be. No new playfields have been added to the Recreation Inventory since 1974 when the Town purchased 13 acres of property on Potwine Lane for active recreation. Most recently, in 1987, 69 acres were added to the Town's inventory of active recreation land for the Cherry Hill golf course.

It may seem that with so much Town-owned conservation land, approximately 1,800 acres, Amherst would meet and exceed current demand for recreational facilities. However, in order to determine Amherst's particular community/recreational needs, it is important to realize the distinction between preserved (conservation) land and recreational open space—preserved (conservation) land may provide for passive recreation and outdoor activities without being dedicated solely to playing fields or formal recreational facilities. Amherst has responded to the various types of activities and uses enjoyed by the community by stretching its resources too thin. With such a diverse population of users, it is difficult to concentrate efforts and funding to maintain existing recreational facilities.

### ***National Standards (NRPA)***

The National Recreation and Parks Administration (NRPA) has developed widely used standards for the amount of recreational space towns should have available and open to the public. NRPA recommends a ratio of 6.2 acres of active recreational land per one thousand people. With Amherst's population of 35,962 (as of July 1, 2007), the total active recreation land should be 223 acres, by national standards. However, Amherst Leisure Services and Supplemental Education (LSSE) Department manages only 126 acres of recreational land, and 66 of these acres include Cherry Hill Golf Course.

Amherst's inventory of public lands consists of another 126.7 acres of land designated as School property, which includes both the Town schools and the Regional schools. The Town schools occupy 66.5 acres while the regional schools total 60.2 acres. Even this acreage can be teased apart because much of the school property is building and parking lots, and cannot be used for recreation. When excluding these areas, the schools provide Amherst with a total of only 45 acres used for playing fields and playgrounds: 23 acres spread across six town school sites and 22 acres at the regional middle school and regional high school. LSSE has limited access to the regional school fields and cannot schedule events or games on these fields.





## Section 7. Analysis of Needs

However, additional acreage should only be added to meet specific needs rather than to arbitrarily increase the number of acres under active recreation status. Based on the inventory of active parks and recreation lands, and according to the national standards, Amherst needs to add up to 97 acres of active recreation land to meet the national standards.

### ***State Standards (SCORP)—2006***

In the Connecticut River Valley Region, as described in Chapter 5 of the Statewide Comprehensive Outdoor Recreation Plan (SCORP), swimming (52%), golfing (26%) and playground use (25%) are the most popular active organized recreational activities for people living in this region. Walking (44%) and picnicking (26%), popular passive recreation activities, are amenities that Amherst's Leisure Services and Supplemental Education (LSSE) Department can provide. The highest priorities for funding preferences reported in SCORP were:

- Maintaining existing facilities (98%);
- Restoring and improving outdoor recreational areas (92%);
- Improving access for people with disabilities (89%);
- Providing guides and interpretive information (84%); and
- Purchasing new outdoor recreational areas (79%).

SCORP shows that “the inferred need for new recreational areas in the Connecticut River Valley Region” includes establishing new parks and golf courses, new trails and greenways, and new bikeways. The highest priorities for funding identified in the SCORP and mentioned above mirror the conservation and recreation priorities for Amherst as well. The Town offers a tremendous amount of programming and activities, but the existing facilities need serious updating and renovations, conservation areas suffer from extreme overuse, and many areas need to improve access for those with disabilities.

### ***Leisure Services and Supplemental Education (LSSE)***

The mission of the Town of Amherst's Leisure Services and Supplemental Education (LSSE) Department is to cultivate the social, physical, intellectual, and artistic development of children, youth and adults.

Multiple public surveys report that LSSE's family, youth and adult programs are regarded as high quality. In one customer evaluation survey, nearly three quarters (71 percent) of the participants indicated that the programs and facilities provided by LSSE are very important to the respondent and/or the respondent's family. Over 50 percent indicated that they participate at least



## Section 7. Analysis of Needs

once a week in LSSE programs. The programs that users most frequently participate in are the youth sports, adult education classes, and aquatics programs. Also popular is the annual Fourth of July celebration on the University of Massachusetts campus. The key motivations for participation are a desire to meet new people and socialize, enjoy recreational activities, provide quality experiences for children, and learn new skills in educational programs.

Setting a goal to increase Amherst's active recreation acreage would help the community achieve national standards and meet state funding priorities. Increasing acreage dedicated to active recreation would also give LSSE the flexibility to expand existing parks and trails when an opportunity arises to acquire parcels adjacent to preserved land. This would allow Amherst to enhance the overall quality of experience and activities offered in town. The Leisure Services and Supplemental Education (LSSE) Department, drawing upon results from the public planning process, and in concert with various town departments, has determined the following as Amherst's most critical community needs:

- ❖ To maintain existing facilities, trails, and recreational spaces.
- ❖ To create a distinct Recreation Department that maintains and generates funding for the maintenance and creation of active recreational facilities.
- ❖ To actively pursue development of a Community Recreation Facility in the Town Center.
- ❖ To create new and successful active recreational facilities to improve the quality of life for all age groups and diverse populations in the community;
- ❖ To be responsive to changing community interests and needs;
- ❖ To provide an adequate supply of accessible, well-maintained recreational facilities that will meet the needs of our community;
- ❖ To expand opportunities, indoor and outdoor, for swimming, one of the most popular recreational activities in Amherst;
- ❖ To make existing parks attractive destinations within higher density areas of Amherst, in particular, develop playgrounds for young children close to downtown and other population centers; and
- ❖ To increase accessibility of existing recreational lands and trails, and public facilities at recreational fields.



## Section 7. Analysis of Needs

In addition to the general town-wide goals stated above, LSSE determined the following site- or activity- specific need from community surveys:

Community Recreation Center: In a recent LSSE survey, users were specifically asked whether there is a need for a new community center. Nearly two-thirds of the respondents were in support of a centralized, multi-use community center that could provide studio and performing arts space, a teen center, a gymnasium and a swimming pool. A similar proportion of people stated that they would use such a center on at least a weekly basis. An indoor/outdoor community recreation center that provides indoor swimming and other recreational activities would better serve the needs of the community throughout the whole year. A dedicated recreational center would also allow LSSE to offer more conveniently scheduled and centrally located activities. Currently, the LSSE schedule is limited by the need to use other town facilities, such as the schools, for its programs.

ADA Accessibility: Under the guidance of the Conservation Commission, the Department oversees close to 2000 acres of public conservation land including more than 80 miles of trails. Amherst conservation areas include a mosaic of different habitats including wetlands, ponds, streams, fields and upland forests. Trails are found in all parts of Amherst, providing residents and visitors alike with opportunities to walk and cycle through habitats on everything from basic woodland trails to elaborate elevated boardwalks. The Department maintains hundreds of bridges of all shapes and sizes- some made of wood, telephone poles and more complex structures made of steel. Most of these areas provide visitors with basic unimproved parking on grass or dirt. With the exception of those referenced below, none of the Amherst conservation trails would meet ADA requirements.

Given topography, wetlands, stream crossings and other factors it is highly unlikely that many Amherst Trails will ever meet ADA requirements. Instead, it seems prudent to continually assess where new trails might be added to make other conservation lands accessible, and to improve accessibility of facilities at existing recreational facilities. The Town has the beginnings of an accessible, or universal access, trail system with the Kevin Flood Trail at the Mill River Conservation Area, the Kevin Dimock Trail at the Larch Hill Conservation Area (Hitchcock Center headquarters), the Norwottuck Rail Trail (extending to Belchertown, Hadley, and Northampton), a short trail from State Street to the fishing and swimming area at Puffer's Pond, and the Rail Trail Connector to UMass. Ideally, the system will be improved and expanded to include other routes potentially suitable for wheelchair use and by the visually impaired.

Swimming: Swimming is by far one of the most popular recreational activities in Amherst. The Mill River and War Memorial Pool provide summer use for



## Section 7. Analysis of Needs

many residents. The Middle School Pool has been available during limited hours for winter use. However, users surveyed indicate a desire for bigger and better pools, an indoor pool, and other hot weather relief, such as a spray park. Some of these needs could be met by building a comprehensive community recreation center, as outlined above.

Skateboarding: Skateboarding and roller boarding has a significant following in Amherst from elementary school children to young adults. There is no legal place to skateboard in the town. Massachusetts has hundreds of skateboard parks, but the closest park to Amherst is in Northampton, a far reach for students and young people. The result is that skaters use sidewalks illegally and sometimes dangerously. Skateboard parks are typically concrete plaza like structures located in downtown areas. Amherst has several possible locations for this activity.

Playgrounds: Playgrounds for young children are in high demand among young families in Amherst, confirming the findings of the SCORP analysis. Recent upgrades to some facilities have been welcome. However, additional renovations and ongoing maintenance are needed. New playgrounds close to downtown and other population centers have been requested. The development of more playgrounds would serve the needs of Amherst's youngest residents, and provide a social gathering point for adults.

Golf: The popularity of golfing has recently been satisfied in Amherst with the establishment of the Cherry Hill Golf Course. This new recreation area provides affordable access for new golfers in a serene setting. The recreation area also serves the needs of cross-country skiers and sledders in the winter.

Basketball: More than 700 children participate in basketball in Amherst. Indoor and outdoor courts provide opportunities to play during all four seasons. However, Amherst's inventory of outdoor courts is in need of maintenance and renovation. Additional courts could be located in new pocket neighborhood parks if maintenance needs can be met.

Ice Skating: Amherst once had a tradition of flooding part of the town commons to provide outdoor ice skating rinks in the winter. Changing weather patterns due to global warming have made upkeep of this activity challenging. However, both public nostalgia and increasingly limited 'ice time' on organized rinks are generating support among residents for this fun family activity. A revival of these temporary skating rinks may be warranted during long stretches of freezing weather. In fact, during the last two winters, a temporary outdoor rink provided in Kendrick Park has been successfully used by residents.

Baseball/Softball: Maintenance of these fields is critical for safety and longevity of the facilities. Baseball and softball fields are widely used by



## Section 7. Analysis of Needs

kids, adults, college students and other local programs. Unlike many other team field sports, baseball and softball require a diamond and well-groomed sand surface, particular maintenance needs that if neglected, result in the quick demise of the field. Amherst has a limited number of regulation fields such that they are overused and result in numerous scheduling conflicts.

Tennis: Amherst has a few tennis courts available to the public, as noted in the Section 5 inventory. There is a need to renovate these courts to provide reasonable playing surfaces, and to increase the number of public tennis courts. Ideally, the courts would be located throughout town near residential neighborhoods and public transportation routes to make them more accessible to all of Amherst residents.

### C. Management Needs, Potential Change of Use

As noted in Section 2, Amherst is experiencing a shift away from decades of emphasis on the acquisition of critical open space toward a new emphasis on appropriate stewardship and management of areas that have been preserved and are now often heavily used.

Popular hiking trails and selected conservation areas are regularly experiencing overuse and degradation. Sustaining fulltime management staff and resources, as well as seasonal field crews, will be critical to the community's ability to maintain environmental quality and provide reasonable public access to preserved lands. Pet owner education and control is a growing issue, and programmatic planning as well as practical ways to address issues of overuse are becoming imperative. The protection and maintenance of scenic viewsheds from the community's public ways will require coordination between those with responsibility for conservation, public works and public shade tree interests. It will also be essential to increase the level of involvement from citizen volunteers who can provide time necessary to complete many projects.

In addition to the normal range of organized recreational activities, a variety of outdoor recreation resources and trends in Amherst combine to create the opportunity for a new synthesis between traditional organized municipal recreation and long-established (but often unorganized) outdoor recreation. These resources include:

- Amherst's extensive network of preserved conservation and farm lands;
- 80+ miles of conservation trails;
- Two significant small river systems and their tributaries;



## Section 7. Analysis of Needs

- The presence and availability of the Norwottuck Rail Trail and an increasing network of on- and off-street bicycle paths/trails and facilities; and
- Existing and planned new connections between recreation fields/facilities and conservation trails.

All of these add up to an opportunity Amherst should pursue. Bicycle touring, hiking, cross-country skiing, snowshoeing, bird-watching, organized nature walks of many kinds, fishing, hunting, etc. are some of the outdoor recreation activities usually pursued by individuals or organized only by private groups. These activities represent a critically important potential supplement to the traditional organized field sports in which municipal recreation departments have so long and narrowly specialized.

Financial resources for traditional organized field sports have been diminishing at the state and local level for some time. Outdoor recreation, including but not limited to traditional consumptive recreation activities such as fishing, hunting, trapping and gathering, establishes for its participants life-long connections to nature and habits of exercise in the outdoors. These activities benefit the physical health, emotional well-being, and depth of environmental understanding in participants, and benefit the community as a whole. Some portion of Amherst's future open space and recreation planning and program activity should increasingly be directed toward exploring ways for organized recreation activities to take advantage of Amherst's existing outdoor resources.

Amherst has also welcomed the opportunity to use the numerous fields that exist on the three college campuses to help meet the town's need for playing fields. However, the campuses have refused to enter into long-term lease agreements with Amherst, making access erratic and unreliable. In addition, the inventory of campus land, traditionally used by community and Town teams, has steadily shrunk over the years, creating scheduling challenges as numerous programs vie for fewer fields. For example, two fields at the University of Massachusetts were recently lost to new dorms and a new parking lot. Some informal playing fields have become improved for varsity team facilities, making them unavailable to Amherst youth sports programs. In fact, the University has ranked LSSE 8th in a long line of user groups that want access to their fields. When a University field is then taken offline, significant pressure falls back on the Town and School resources. The result is that all youth sports programs are affected by this critical shortage. Some programs are cut and the request for new programs goes unanswered. LSSE estimates the Town could use ten (10) more playing fields (up to 50 acres) to accommodate the growing demand for field sports and to make up for the decreasing availability of public school and college campus fields.





## Section 7. Analysis of Needs

The Amherst schools' gyms and fields have also been less and less accessible to LSSE over the years. The Schools have more sports teams to accommodate on School fields due to loss of the University fields described above. As a result, some school sports teams have been dropped by Amherst Schools and picked up by LSSE, including youth football, girls/boys basketball, girls volleyball, and girls lacrosse. School sports teams have been forced to use Town fields. Junior and Varsity football use Community Field and Boys Ultimate Frisbee uses Kiwanis Park. Even college intramural teams, who have lost access to campus fields for varsity sports, are now using town/school fields with increasing frequency.

The scarcity of Town fields, and the increasing pressure to use them by school and college groups, means that existing fields are overused. Many fields need a period of "rest" so they can be re-seeded, rolled, and repaired. The problem is that there are not enough fields in the current inventory to allow for a rotation schedule. This issue is often compounded by poor drainage of the fields, making them wet and muddy during much of the playing season.

The limited supply of reliably available, safe, outdoor athletic fields shows the need to prioritize the acquisition of additional park and recreation lands, as well as renovate and expand key parcels to make them more useful. By seeking land that is contiguous to existing conservation areas and parks, LSSE can provide opportunities that offer users both passive and active recreation options. By identifying land acquisition opportunities near major public transportation routes and trails, new playing fields will be more accessible to the town's youth.

Neighboring communities with approximately the same size population and similar demographic characteristics of Amherst have recently developed new fields and facilities to meet growing community needs. These new recreational areas are widely used and strongly supported by their communities, and clearly indicate that Amherst would benefit from building new facilities and maintaining existing parks and recreation areas. The Town of Amherst has not increased its inventory of active recreational land in over thirty years and has only improved one recreational area so that it meets all safety and field standards and accessibility requirements.





## **Goals and Objectives**

The goals and objectives outlined in this plan intend to achieve a balance of conservation and recreation. The community needs from Section 7 offer many opportunities for collaboration between various organizations, Town departments, and boards and committees. The following list of goals and objectives (numbered and lettered in correlation with the appropriate action strategies described in Section 9 [Action Plan]) is based on community surveys, input from public meetings and from Amherst's 2008 Draft Master Plan.

### **Goal 1. Protect farmland and prime soils, and thus enhance Amherst's rural character and agricultural viability.**

#### Objectives:

- Protect and encourage productive farms and agricultural businesses in areas traditionally farmed and where those businesses are currently operating.
- Work with the Agriculture Commission to promote and preserve the local agricultural economy.
- Educate the public about value of working landscapes.
- Continue to expand funding of Agricultural Preservation Restrictions (APR) and Conservation Restrictions (CR) for the acquisition of farmland.

### **Goal 2. Focus land preservation efforts in areas identified as priority habitat (for rare and endangered species), containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.**

#### Objectives:

- Identify and prioritize key parcels for acquisition or protection to help preserve lands for conservation (trail, habitat and biodiversity), recreation, watershed protection, and agriculture.
- Increase size and quality of wildlife habitat along riparian corridors and wooded uplands
- Protect scenic points from which to view important natural features such as the Lawrence Swamp, Mount Holyoke Range, the Pelham Hills, local ponds and rivers, and farmland.
- Protect wetlands, vernal pools, and water supply sources.



## Section 8. Goals and Objectives

### **Goal 3. Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.**

#### Objectives:

- Develop recreational areas that integrate active and passive recreational opportunities available to all ages and abilities.
- Establish recreational opportunities near population centers such as existing neighborhoods and the Town Center.
- Maintain, renovate and adapt existing parks, facilities, fields and recreational areas to serve multiple purposes and to meet the changing recreational trends of the community, from lacrosse to soccer to swimming.
- Develop universal access programs to provide outdoor activities for those with disabilities and mobility impairment.

### **Goal 4. Expand and connect existing preserved land and trail system to make a greenway network throughout town.**

#### Objectives:

- Reduce reliance on cars and improve walkability in the Town Center and outlying village centers.
- Prepare and implement a universal access trail plan for the Town.
- Improve yearly trail maintenance and strengthen regulations governing trail use.
- Remove financial and physical barriers to participation in programs and use of facilities by obtaining additional fee subsidy and special needs assistance.

### **Goal 5. Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.**

#### Objectives:

- Collaborate with local organizations and colleges to coordinate use of recreation lands and parks, and to reduce operating costs and scheduling conflicts.
- Institutionalize a process for resolving competing public land use interests.
- Lessen the impact and disturbance of new developments to wildlife habitat and areas with high ecological value.
- Mitigate competing uses and conflicting activities on conservation and recreation lands.



## Section 8. Goals and Objectives

### **Goal 6. Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.**

#### Objectives:

- Create new and improve existing outdoor recreational facilities including (1) non-consumptive passive – hiking, mountain biking, cross-country skiing, bicycling, horseback riding, picnicking, pond swimming, birding, and nature study; (2) consumptive traditional– hunting and trapping in selected locations, fishing, and others; and (3) active – pool swimming, team sports, and other activities that require built facilities.
- Increase program activity directed toward organized outdoor recreation activities that make use of Amherst's existing preserved lands and trails.
- Market farms and Amherst-based agricultural products.

### **Goal 7. Increase land area available for active recreation in Amherst.**

#### Objectives:

- Inventory and assess existing facilities and recreation programs.
- Identify and prioritize all parcels within the recreation priority areas in Town (See Action Plan Map).
- Develop a protocol for acquiring land for recreation.
- Reduce scheduling conflicts.

### **Goal 8. Improve stewardship of conservation lands and trails.**

#### Objectives:

- Use local volunteer experts and environmental science students to establish baseline ecological and trail condition assessments of each conservation area and trail system in Amherst.
- Develop a management plan for each conservation area and trail in the community.
- Initiate new volunteer programs to help establish corps of volunteer stewards who will help oversee management of conservation areas and trails.
- Expand public awareness of the stewardship needs of existing conservation lands, trails, and programs through outreach to the colleges, advertising and public relations.
- Increase efforts to raise funds, private or from any source, for the maintenance improvement of trails and conservation areas.



## **The Action Plan**

(See Map 8: Seven-Year Action Plan)

The Seven-year Action Plan below shows a number of objectives with associated projects and strategies developed through community input and consultation with the Conservation, Planning, and LSSE Departments. Many of the actions listed reflect priorities and recommendations that have been in development for many years, and it is Amherst's intention that this plan will help begin the implementation phase of such projects.

### **Responsible Party**

The Seven-year Action Plan tries to identify the responsible party(s) that would be critical to implementing and completing each task—Town staff, boards and committees, volunteers, and local organizations. The Town of Amherst is fortunate to have a range of competent departments and staff who frequently collaborate on projects as well as work independently on specific tasks. In addition to Town staff, there are approximately 50 active boards and committees comprised of citizen volunteers who contribute to the success of many projects undertaken by the Town of Amherst.

### **Timeline**

The Seven-year Action Plan categorizes action steps by the estimated timeframe needed to implement each action. Many of the recommended actions and strategies are complex tasks that are best accomplished in phases and with assistance from various departments and boards and committees. The timeframe in the Action Plan is enumerated as follows:

- Ongoing
- Short term: 1-3 years
- Intermediate: 3-5 years
- Long term: 5-7 years

### **Funding**

Funding is critical to the success of many of the objectives and actions, and in these uncertain economic times it is difficult to identify specific funding sources. The Town of Amherst recognizes the importance and causal relationship between successful projects and successful funding, and has a long history of securing state grants for land conservation and recreation, and making use of Community Preservation Act (CPA) funds to augment shrinking Town budgets. The Town actively seeks external grant and funding sources, and is proactive in developing creative funding mechanisms for projects, ranging from volunteer efforts and graduate



student interns to combining grant awards. The Town also works with the colleges and university should it undertake a project that would have an effect on these institutions.

Implementing the actions and objectives within the Seven-year Action Plan will undoubtedly require the combination of many funding sources—general Town funds, CPA funds, grant awards, volunteer efforts, and private donations—and financial strategies yet to be explored.

- APR Funding—prime farmland and active agricultural operations
- LAND Grants—general open space, watershed protection and habitat preservation, trail corridors
- PARC Grants—active recreation lands- acquisitions and improvements
- LWCF—both active and passive recreation lands, open space, etc.
- CPA—the Town of Amherst generates funds annually with this program to help with conservation and recreation.
- Donations of money and land—where possible
- Funding from private land trusts
- Cooperative projects with DCR, MA Fish and Game
- Cooperative projects with US FWS
- Forest Legacy funding for intact forest lands

## **Section 9. Seven-year Action Plan**



## **Section 9. Seven-year Action Plan**

### **Circle 1**

- Existing facilities in immediate area: the Mill River Recreation Area, Cherry Hill Golf Course, many hiking trails and Puffer's Pond.
- This area a local and regional destination that attracts many residents, students, and visitors.
- Adjacent protected land is appropriate for adaptation to active recreation.
- Area is within walking distance of two village centers: North Amherst and Cushman Village

### **Circle 2**

- North Amherst Village Center is most populated center in town.
- Easy access to major transportation routes: Route 116, Route 63 and local roads.
- Fields and open spaces are currently used informally for active recreation.
- Concentration of apartments and student housing.

### **Circle 3**

- Town center location—schools, dense residential neighborhoods
- Potential pocket park acquisition of critical properties for active recreation such as basketball and tennis.
- Area is walkable and pedestrian friendly.
- New recreational opportunities would complement existing school fields and Bangs Community Center.
- Site for possible future Community Recreation Center with indoor facilities such as swimming pool, tennis courts and rock climbing.

### **Circle 4**

- Within proximity of local schools and town-owned parks.
- Parcels adjacent to recreation land are suitable for expansion of activities.
- Public Transportation frequents the area.
- Potential for partnership/collaboration with Amherst College to develop active recreation facilities.



## **Section 9. Seven-year Action Plan**

### **Circle 5**

- Areas adjacent to elementary school could expand recreation fields.
- Existing neighborhoods would benefit from new facilities.
- Adding recreation land would connect to the network of nearby trails and conservation land.

### **Circle 6**

- Within walking distance of heavily populated neighborhoods.
- Old landfill sites—researching feasibility of adapting sites to recreational use.
- Access on Route 9, a major transportation corridor.
- Large properties can accommodate multiple playing fields and still provide buffering of noise and lights to nearby homes.

### **Circle 7**

- Near expanding village centers of Atkins Corner and Pomeroy Village.
- Potential partnership/collaboration with Hampshire College to develop active recreation land to serve college students and residents.
- Adjacent to Hickory Ridge Golf Course
- Adjacent to Over 55 developments—opportunity to increase accessible recreational facilities in town.





## General Action Items

## Section 9. Seven-year Action Plan

Goal 1. Protect farmland and prime soils, and thus enhance Amherst's rural character and agricultural viability.			
Objectives	Actions	Responsible Party	Completion Timeline
<b>Protect and encourage productive farms and agricultural businesses in areas traditionally farmed and where those businesses are currently operating.</b>	<ul style="list-style-type: none"> <li>Make use of Community Preservation Act (CPA) funds for conservation, farmland protection, and recreation in a way that complements the other CPA goals of historical preservation and provision of low-income housing.</li> </ul>	Community Preservation Act Committee Conservation Commission Leisure Services and Supplemental Education Department (LSSE Department) Community Development Historical Commission Conservation Department	Ongoing
	<ul style="list-style-type: none"> <li>Identify and preserve unprotected priority agricultural lands (i.e. Farmland Conservancy zoning district and areas with prime soils).</li> </ul>	Director of Conservation of Development Land Manager Conservation Department Planning Department Information Technology Department	Ongoing-Long term
	<ul style="list-style-type: none"> <li>Develop a protocol for conserving active farmland and open space within these priority areas.</li> </ul>	Director of Conservation of Development Land Manager Conservation Department Planning Department Select Board Planning Board	Intermediate
	<ul style="list-style-type: none"> <li>Direct infill development to existing village centers with zoning, developer incentives and transfer of development rights (TDR's).</li> </ul>	Conservation Department Planning Department Planning Board Select Board Zoning Board	Ongoing/Long term
	<ul style="list-style-type: none"> <li>Revise and expand farming overlay districts, and create new forestry districts.</li> </ul>	Conservation Department Planning Department Conservation Commission Agricultural Commission Land Manager	Long term
<b>Work with the Agriculture Commission to promote and preserve the local agricultural economy.</b>	<ul style="list-style-type: none"> <li>Refine the Town's Farmland Conservancy zoning overlay district to reflect accurate land uses and prime soils.</li> </ul>	Agricultural Commission Conservation Commission Information Technology Planning Board	intermediate-long term
	<ul style="list-style-type: none"> <li>Eliminate and modify land use regulations and local bylaws that hinder the use of conservation restrictions and other innovative land management techniques that help preserve farmland.</li> </ul>	Town Manager Conservation Commission Planning Board	intermediate
	<ul style="list-style-type: none"> <li>Increase citizen resources, in particular, availability of funding for small-scale farming operations.</li> </ul>	Town Manager Director of Conservation and Development Local Land Trusts Local partnership organizations	short term-intermediate
<b>Educate the public about the value of working landscapes.</b>	<ul style="list-style-type: none"> <li>Enhancement of a community-wide sign system, including a standard design, that helps interpret farming operations and connects outdoor recreation with agriculture.</li> </ul>	Conservation Department Planning Department Conservation Commission Leisure Services and Supplemental Education Commission (LSSE Commission)	ongoing
	<ul style="list-style-type: none"> <li>Use the various media resources (website, Town Hall, library, local TV) to advertise workshops and inform the public about the role of farming to the local economy.</li> </ul>	All responsible parties	ongoing-short term
	<ul style="list-style-type: none"> <li>Build a year-round farmer's market where local produce is sold and where educational material can be handed out.</li> </ul>	Town Manager Conservation Department Planning Department Agricultural Commission	short term
	<ul style="list-style-type: none"> <li>Continue Farmers Forums and coordination between Conservation Commission and Agricultural Commission on land preservation.</li> </ul>	Director of Conservation and Development Land Manager Agricultural Commission Conservation Commission	ongoing-short term
	<ul style="list-style-type: none"> <li>Encourage development of Community Gardens as a way to educate public about the value of locally grown products and to use as an interpretive tool to relate to the agricultural history of the community.</li> </ul>	Land Manager Conservation Commission Conservation Department	ongoing-long term
<b>Continue to expand the use of funding for APR and CR acquisition of farmland.</b>	<ul style="list-style-type: none"> <li>Develop protocol for working with private landowners prior to the sale of property.</li> </ul>	Town Manager Director of Conservation and Development Land Manager Select Board	intermediate
	<ul style="list-style-type: none"> <li>Increase grant applications and attend workshops for keeping farmland in our community.</li> </ul>	Conservation and Development Agricultural Commission	ongoing-short term
	<ul style="list-style-type: none"> <li>Make use of flexible zoning and limited development scenarios to make cost of farmland conservation feasible.</li> </ul>	Conservation Department Planning Department Agricultural Commission Planning Board	short term



## Section 9.

### Seven-year

### Action Plan

Goal 2. Focus land preservation efforts in areas identified as priority habitat (for rare and endangered species), containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.			
Objectives	Actions	Responsible Party	Completion Timeline
Identify and prioritize key parcels for acquisition or protection to help preserve lands for conservation (trail, habitat, and biodiversity), recreation, watershed protection, and agriculture.	• Make use of the Town's extensive GIS database and mapping software to help prioritize areas for protection.	Director of Conservation and Development Land Manager Information Technology Department Conservation Department Planning Department Conservation Commission	short term
	• Match these parcels with public and private programs that will support acquisition and/or protection.	Director of Conservation and Development Land Manager Information Technology Department Conservation Department Planning Department Conservation Commission	short term-intermediate
Increase size and quality of wildlife habitat along riparian corridors and wooded uplands.	• Acquire and preserve land along the Mill and Fort Rivers and their tributaries, to protect water quality and aquatic habitat.	Director of Conservation and Development All responsible parties	short term-long term
	• Create contiguous blocks of open space with conservation restrictions or outright title.	Director of Conservation and Development Conservation Department Planning Department Conservation Commission	ongoing
	• Revise zoning overlay districts for aquifer, watershed, and farmland resources. Create a zoning overlay district for critical forest resource areas.	Conservation Department Planning Department Planning Board Town Meeting Select Board	long term
Protect scenic points from which to view important natural features such as the Lawrence Swamp, Mount Holyoke Range, the Pelham Hills, local ponds and rivers, and farmland.	• Use regulations and incentives such as open space offsets, Transfers of Development Rights (TDR's), and preservation banks, to encourage design that enhances the landscape.	Town Manager Planning Director Planning Board Zoning Board of Appeals	short term
	• Develop a street tree inventory and shade tree replacement plan in conjunction with the Town's 250th anniversary in 2009.	Tree Warden Public Shade Tree Committee Conservation Department Planning Department Information Technology Department	short term
Protect wetlands, vernal pools, and water supply sources.	• Develop a mapping plan strategy to locate and certify vernal pools.	Wetlands Administrator Information Technology Department Conservation Commission	short term
	• Collaborate with the Information Technology Department to accurately map wetlands and vegetated buffers, and to update maps when new data from wetland delineations is filed.	Wetlands Administrator Land Manager Information Technology Department Conservation Commission	short term
	• Work with land owners to purchase Conservation Restrictions in watershed lands and areas with wetlands.	Director of Conservation and Development Land Manager	ongoing-long term
	• Increase use of land preservation techniques in Lawrence Swamp.	Conservation Commission Agricultural Commission Planning Director	ongoing-long term
	• Better enforcement and public outreach of regulations that protect wetlands and other water resources.	Land Manager Assistant Land Manager Seasonal Staff Department of Public Works	short term



## Section 9. Seven-year Action Plan

Goal 3. Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.			
Objectives	Actions	Responsible Party	Completion Timeline
Develop recreational areas that integrate active and passive recreational opportunities available to all ages and abilities.	• Increase the diversity and range of quality recreational and supplemental education programs for residents of Amherst.	LSSE Department	short term
	• Support the design process to develop a vision for Kendrick Park.	All responsible parties	short term
	• Provide a mix of long trails (the 42-mile Robert Frost Trail and the 6-mile KC Trail), short out-and-back trails, and short loop trails.	Land Manager Assistant Land Manager Seasonal Trail Crew Conservation Department Planning Department	intermediate
	• Expand Puffer's Pond as a conservation and recreation area with volunteer stewardship programs, develop formal swimming areas, increase accessible trail system, and interpretive sign system explaining benefits of respecting the environment.	Puffer's Pond 2020 Committee Conservation Commission Director of Conservation and Development Disability Access Advisory Committee Local partnerships Seasonal staff	ongoing-long term
	• Expand accessible trail system in conservation areas distributed evenly throughout town.	Disability Access Advisory Committee Conservation Department Planning Department Community Development	long term
	• Inventory and evaluate Town-owned lands that are not dedicated or restricted to an exclusive public use.	Director of Conservation and Development Land Manager Information Technology Department	intermediate
	• Publicize national and state recreation standards to inform Amherst citizens about the relative shortfalls in Town recreational facilities.	LSSE Department Conservation Department Planning Department	short term
Establish recreational opportunities near population centers such as existing neighborhoods and the Town Center.	• Site, design and construct a skateboarding and roller boarding park, preferably near public transportation and in the town center or village centers.	Town Manager LSSE Department	long term
	• Establish and enhance open spaces in and around the Town Center and outlying village centers, connected where feasible to other Town trail systems and public transportation, to create a walkable network of urban parks.	Conservation Department Planning Department Department of Public Works Public Transportation and Bicycle Committee Community Development	intermediate-long term
	• Conduct feasibility study for building a new multi-use, indoor/outdoor community recreation center near Amherst Center that could provide studio and performing arts space, a teen center, a gymnasium, and a swimming pool.	LSSE Department LSSE Commission	intermediate
	• Develop playgrounds for young children close to downtown and other population centers.	LSSE Department LSSE Commission	long term
	• Inventory old "pocket park" projects (Stanley Street, Cow Field, Orchard Valley, Pomeroy Court) and develop a plan for their restoration to better serve the public's use.	Conservation Department Planning Department LSSE Department	short term
	• Work with affordable housing, transportation, and the Conservation Department and other community organizations to position the town's parks as vital centers of civic and economic life.	Town Manager Community Development Conservation Department Planning Department Amherst Redevelopment Authority	intermediate-long term



## Section 9. Seven-year Action Plan

Goal 3. Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.			
Objectives	Actions	Responsible Party	Completion Timeline
<b>Maintain, renovate, and adapt existing parks, facilities, fields and recreational areas to serve multiple purposes and to meet the changing recreational trends of the community, from soccer to swimming to rock climbing.</b>	<ul style="list-style-type: none"> <li>Construct new multipurpose playing fields (LSSE estimates the Town could use ten (10) more playing fields (up to 50 acres)), especially for middle and high school aged students, in various locations throughout town to compensate for loss of fields traditionally open to the community at the college campuses.</li> </ul>	LSSE Department LSSE Commission Conservation Department Planning Department Department of Public Works	intermediate-long term
	<ul style="list-style-type: none"> <li>Focus the development of new facilities on activities that are underserved by the current limitations of the Town's existing recreational assets, e.g. multi-use active recreational fields.</li> </ul>	Disability Access Advisory Committee Conservation Department Planning Department LSSE Department Community Development	long term
	<ul style="list-style-type: none"> <li>Maintain and improve Amherst's inventory of outdoor basketball courts, with additional courts designed for pocket neighborhood parks.</li> </ul>	LSSE Department Department of Public Works Conservation Department Planning Department Information Technology Department	intermediate
	<ul style="list-style-type: none"> <li>Develop temporary skating rinks in public parks or the town commons to provide informal outdoor ice-skating in the winter.</li> </ul>	Town Manager Select Board Department of Public Works	short term
	<ul style="list-style-type: none"> <li>Increase the number of public tennis courts.</li> </ul>	LSSE Department	long term
	<ul style="list-style-type: none"> <li>Research and study the feasibility of using the old landfills for recreation.</li> </ul>	Town Manager Conservation Department Planning Department Department of Public Works	short term
	<ul style="list-style-type: none"> <li>Investigate expansion of Groff Park (i.e. more multipurpose playing fields, increased number of basketball courts, and riverside paths.)</li> </ul>	LSSE Department Conservation Department	intermediate
	<ul style="list-style-type: none"> <li>Update the Mill River Recreation Area in North Amherst with new lighting, tennis courts, and facilities.</li> </ul>	LSSE Department Department of Public Works Conservation Department Planning Department	intermediate-long term
<b>Develop universal access programs to provide outdoor activities for those with disabilities and mobility impairment.</b>	<ul style="list-style-type: none"> <li>Reduce architectural barriers along pedestrian routes, especially 'in-town' sidewalks and trails.</li> </ul>	Disability Access Advisory Committee Department of Public Works Select Board	short term
	<ul style="list-style-type: none"> <li>Develop a town-wide sign system for recreational facilities, parks and conservation land that consists of directional and site specific signs, as well as rules and regulations postings.</li> </ul>	Conservation Department Planning Department Chamber of Commerce School Department	intermediate
	<ul style="list-style-type: none"> <li>Develop Puffer's Pond area with a fully accessible trail loop and system, and beach area.</li> </ul>	Conservation Department Planning Department Disability Access Advisory Committee Conservation Commission	short term-intermediate
	<ul style="list-style-type: none"> <li>Improve and expand accessible trails and facilities at heavily-used conservation areas and education centers, such as Larch Hill.</li> </ul>	Conservation Department Planning Department Disability Access Advisory Committee Conservation Commission Land Manager Seasonal trail crew	intermediate



## Section 9. Seven-year Action Plan

Goal 4. Expand and connect existing preserved land and trail system to make a greenway network throughout town.			
Objectives	Actions	Responsible Party	Completion Timeline
Reduce reliance on cars and improve walkability in the Town Center and outlying village centers.	<ul style="list-style-type: none"> <li>Establish new connector trails to residential neighborhoods, connecting people to where they live, work, shop and go to school.</li> </ul>	Director of Conservation and Development Land Manager Conservation Commission	long term
	<ul style="list-style-type: none"> <li>Expand protection for the Robert Frost Trail, the KC Trail, and sections of other present and future trails that cross private land by establishing permanent easements to replace unwritten oral agreements.</li> </ul>	Town Manager Director of Conservation and Development Land Manager Conservation Commission	long term
	<ul style="list-style-type: none"> <li>Use CPA funds for trail creation and maintenance.</li> </ul>	Conservation Commission Agricultural Commission	short term-long term
	<ul style="list-style-type: none"> <li>Make new off-road routes to replace short road sections of the Robert Frost and KC Trails.</li> </ul>	Town Manager Director of Conservation and Development Land Manager Conservation Commission Department of Public Works	long term
	<ul style="list-style-type: none"> <li>Identify land acquisition opportunities that are contiguous to existing conservation areas and parks, and are near major public transportation routes and trails to help make new playing fields more accessible to the town's youth through a greenway network of trails.</li> </ul>	Director of Conservation and Development LSSE Planning Director	ongoing
	<ul style="list-style-type: none"> <li>Acquire land that provides natural linkages between trails, preserved lands and recreation areas.</li> </ul>	Conservation Department Planning Department Conservation Commission	ongoing-long term
	<ul style="list-style-type: none"> <li>Augment the public trail system with permission from private landowners to connect residential, commercial, and institutional destinations to public rights-of-way as a means of encouraging sustainable transportation.</li> </ul>	Director of Conservation and Development Land Manager Conservation Commission	intermediate
	<ul style="list-style-type: none"> <li>Update the subdivision and zoning regulations to require road and pedestrian connections among different neighborhoods, districts, and corridors.</li> </ul>	Planning Department Planning Board	long term
Prepare and implement a universal access trail plan for the Town	<ul style="list-style-type: none"> <li>Improve opportunities for people with disabilities to access trails and conservation areas.</li> </ul>	Disability Access Advisory Committee Conservation Commission Seasonal Trail Crew	short term-long term
	<ul style="list-style-type: none"> <li>Reduce architectural barriers along pedestrian routes, especially 'in-town' sidewalks and trails.</li> </ul>	Department of Public Works Disability Access Advisory Committee	short term
	<ul style="list-style-type: none"> <li>Provide good trail connections to elementary schools, secondary schools, the colleges, and the University.</li> </ul>	School Department LSSE Department Conservation Department Planning Department Conservation Commission	long term
	<ul style="list-style-type: none"> <li>Establish an advisory group composed of individuals throughout the community and from various organizations to oversee implementation of the plan.</li> </ul>	Town Manager Select Board Conservation Department Planning Department	long term
	<ul style="list-style-type: none"> <li>Develop a design guidelines handbook that shows techniques to make trails and facilities universally accessible and fully ADA compliant.</li> </ul>	Conservation Department Planning Department Conservation Commission Disability Access Advisory Committee	intermediate
	<ul style="list-style-type: none"> <li>Design and install a system of signs at trailheads, parking areas and at all recreational facilities that clearly show skill level, accessibility areas, and designated uses for each location.</li> </ul>	Conservation Department Planning Department Land Manager Seasonal Staff	short term- long term



## Section 9. Seven-year Action Plan

Goal 4. Expand and connect existing preserved land and trail system to make a greenway network throughout town.			
Objectives	Actions	Responsible Party	Completion Timeline
<b>Improve yearly trail maintenance and strengthen regulations governing trail use.</b>	• Hire additional staff to carry out maintenance functions.	Town Meeting Conservation Department	short term
	• Assign increased budget priority to the management and upkeep of conservation and recreation properties.	Conservation Department Planning Department Finance Committee	ongoing
	• Control and elimination of invasive species.	Land Manager Seasonal Staff	long term
	• Survey all conservation lands to complete boundary marking and respond to encroachment from abutters.	Department of Public Works	long term
	• Address erosion and compaction issues throughout the trail system.	Conservation Commission Land Manager Seasonal Trail Staff	ongoing-long term
	• Improve the sign system with a standard design and placement, especially for posting of conservation area rules and regulations.	Conservation Commission Land Manager Seasonal Trail Staff	long term
	• Place dedicated recycling receptacles in public spaces in the downtown and village centers to facilitate and encourage recycling.	Department of Public Works	ongoing
	• Increase maintenance of existing lands and trails through use of Friends Groups and volunteer participation.	Conservation Commission Land Manager Seasonal Trail Staff	intermediate
<b>Remove financial and physical barriers to participation in programs and use of facilities by obtaining additional fee subsidy and special needs assistance.</b>	• Increase cooperation with schools who allow the use of facilities for LSSE programs.	School Department LSSE Department Conservation Department Planning Department	ongoing
	• Develop a system that assigns greater management and maintenance of facilities to responsible entities and to programs that more frequently use that specific facility.	Town Manager Select Board LSSE Department Conservation Department Planning Department	long term
	• Improve access to outdoor recreational facilities and conservation areas by providing public transportation to these destinations.	Public Transportation and Bicycle Committee	short term
	• Collaborate with the Department of Public Works to coordinate road and sidewalk improvements, and major infrastructure projects with the Disability Access Advisory Committee.	Department of Public Works Conservation Department Planning Department Disability Access Advisory Committee	ongoing-short term



## Section 9. Seven-year Action Plan

<b>Goal 5. Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.</b>			
<b>Objectives</b>	<b>Actions</b>	<b>Responsible Party</b>	<b>Completion Timeline</b>
<b>Collaborate with local organizations and colleges to coordinate use of recreation lands and parks, and to reduce operating costs and scheduling conflicts.</b>	• Secure a long-term agreement with one or more of the college campuses to ensure more reliable access to playing fields and for community events.	Town Manager Select Board LSSE Department Conservation Department Planning Department	long term
	• Develop a rotation schedule [with the Town, Amherst Schools, colleges and university] for playing fields, giving them a period of “rest” so they can be maintained (re-seeded, rolled and repaired).	Town Manager Select Board LSSE Department Conservation Department Planning Department	intermediate
	• Prioritize the scheduling of routine maintenance and major renovations to keep facilities and playing fields safe.	LSSE Department LSSE Commission Department of Public Works	short term
	• Coordinate activities at summer pools (Mill River and War Memorial Pool), especially free swimming hours open to the public.	LSSE Department LSSE Commission Department of Public Works	ongoing
	• Develop clear agreements between the regional school department and the Town that define the division of maintenance responsibilities for recreational facilities.	Town Manager School Department	intermediate
<b>Institutionalize a process for resolving competing public land use interests.</b>	• Develop an administrative land use review process for all Town projects.	All responsible parties	long term
	• Require community charrettes as part of the permitting process, to encourage public input into design.	Conservation Department Planning Department Planning Board	long term
	• Continue to partner with land conservation organizations such as the Kestrel Trust and other local land trusts.	Conservation Department Planning Department Director of Conservation and Development Land Manager Local organizations	ongoing
<b>Lessen the impact and disturbance of new developments to wildlife habitat and areas with high ecological value.</b>	• Identify and map critical wildlife habitat, areas of high ecological value, and areas of related atavistic outdoor recreation on the Town GIS system using state and local data sources.	Conservation Department Planning Department Land Manager Information Technology Department	intermediate
	• Preserve open space with conservation and deed restrictions, and establish easements that provide scenic protection and future public access.	Conservation Department Planning Department Director of Conservation and Development Land Manager Local organizations (land trusts) Conservation Commission	intermediate
	• Develop a system where applicants can work concurrently with various town boards and committees to help them complete applications.	Conservation Department Planning Department Planning Board Zoning Board of Appeals	intermediate-long term
	• Actively manage Town-owned conservation land as wildlife habitat.	Land Manager Conservation Commission	ongoing-long term
	• Amend local regulations (zoning, subdivision, wetland, etc.) to give preservation priority to these areas, including buffers; and to direct more intensive development to appropriate areas, limit development in key resource areas, and use these areas for project development for Town projects.	Planning Board Zoning Subcommittee Zoning Board of Appeals Conservation Commission	long term
	• Create zoning regulations and local tax incentives to encourage, or where possible, mandate cluster subdivision design, construction of energy-efficient buildings, green/sustainable site design, and use of renewable energy sources (solar, wind, etc.).	Town Manager Finance Committee Town Commercial Relations Committee Planning Board	intermediate-long term
	• Promote the use of buffer zones to minimize the impact of new buildings on nearby key resources.	Conservation Commission Wetlands Administrator	short term





## Section 9. Seven-year Action Plan

<b>Goal 5. Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.</b>			
<b>Objectives</b>	<b>Actions</b>	<b>Responsible Party</b>	<b>Completion Timeline</b>
<b>Mitigate competing uses and conflicting activities on conservation and recreation land.</b>	<ul style="list-style-type: none"> <li>• Increase number of signs at trailheads, conservation areas, and recreational facilities that clearly list all the rules, regulations and penalties.</li> </ul>	Conservation Commission Land Manager Seasonal Trail Staff	short term
	<ul style="list-style-type: none"> <li>• Reach out to all user groups (e.g. dog walkers, hikers, cyclists, ATV riders) to cooperatively balance and mitigate impacts on conservation and recreation land.</li> </ul>	Conservation Department Planning Department Town Manager	short term-intermediate
	<ul style="list-style-type: none"> <li>• Establish a public awareness campaign about appropriate use of conservation land that utilizes the Town's website, broadcast media—public access television and local newspapers.</li> </ul>	Conservation Department Planning Department Information Technology Department	short term-intermediate
	<ul style="list-style-type: none"> <li>• Create a clearinghouse to compile and disseminate information on impacts of dog usage on conservation lands.</li> </ul>	Conservation Department Planning Department Land Manager	intermediate



## Section 9. Seven-year Action Plan

<b>Goal 6. Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.</b>			
<b>Objectives</b>	<b>Actions</b>	<b>Responsible Party</b>	<b>Completion Timeline</b>
<b>Create new and improve existing outdoor recreational facilities including (1) non-consumptive passive; (2) consumptive traditional; and (3) active – pool swimming, team sports, and other activities that require built facilities.</b>	<ul style="list-style-type: none"> <li>• Work with Chamber of Commerce to encourage sustainable cultural and recreational tourism.</li> </ul>	Agricultural Commission LSSE Department LSSE Commission Conservation Department Planning Department	short term
	<ul style="list-style-type: none"> <li>• Create a "Green Infrastructure" Plan: Build on the work embodied in the Climate Action Plan to address future growth patterns by making Amherst a more livable and walkable community and linking trails with parks and recreation areas.</li> </ul>	Public Transportation and Bicycle Committee Planning Board	long term
	<ul style="list-style-type: none"> <li>• Increase number of citizen volunteers through training workshops and use of Friends Groups to help maintain and act as stewards of outdoor recreation and conservation areas.</li> </ul>	Conservation Department Planning Department Land Manager	short term-intermediate
	<ul style="list-style-type: none"> <li>• Work with existing private organizations, including local representatives of outdoor recreation user groups such as Western Massachusetts Cross-Country Ski Association, Hampshire Bird Club, Norwottuck Fish &amp; Game Association, Trout Unlimited, Ruffed Grouse Society, and similar groups, to help manage and conserve existing Town land and water resources for non-consumptive passive and consumptive traditional outdoor recreation.</li> </ul>	Conservation Department Planning Department LSSE Department Water Department Director of Conservation and Development	long term
	<ul style="list-style-type: none"> <li>• Continue to partner with local land trusts and state organizations such as the Department of Conservation and Recreation, to help protect open space and develop trails and trail easements.</li> </ul>	Conservation Department Planning Department Land Manager	ongoing
<b>Increase program activity directed toward organized outdoor recreation activities that make use of Amherst's existing preserved lands and trails.</b>	<ul style="list-style-type: none"> <li>• Inventory and evaluate Town-owned lands that are not dedicated or restricted to an exclusive public use.</li> </ul>	Director of Conservation and Development Town Manager LSSE Department	intermediate
	<ul style="list-style-type: none"> <li>• Continue development and expansion of the Literary Trail System that will draw attention to the town's rich literary history, especially to those writers whose literature relates to the natural environment.</li> </ul>	Land Manager Conservation Commission Seasonal Trail Crew	short term
	<ul style="list-style-type: none"> <li>• Establish a permanent exhibit at the Jones Library that will help residents and visitors locate the trails and acquaint them with the library's extensive collection of works by local authors.</li> </ul>	Library Staff Conservation Department Planning Department	long term
	<ul style="list-style-type: none"> <li>• Develop a Visitor/Cultural Center in the Town Center that provides information and amenities such as public restrooms, publicity materials, and a calendar of events.</li> </ul>	Chamber of Commerce Town Manager Select Board	long term
	<ul style="list-style-type: none"> <li>• Increase maintenance of existing lands and trails through use of Friends Groups and volunteer participation.</li> </ul>	Conservation Department Planning Department	short term-long term
	<ul style="list-style-type: none"> <li>• Increase maintenance of the Town Commons, parks and cemeteries and other green spaces in the village centers and the downtown as promotional aspects and attractive destinations in the population centers.</li> </ul>	Town Manager LSSE Department Department of Public Works	ongoing
<b>Market farms and Amherst-based agricultural products.</b>	<ul style="list-style-type: none"> <li>• Develop a permanent farmer's market location that is open year round to serve residents and local citizens.</li> </ul>	Town Manager Select Board	short term
	<ul style="list-style-type: none"> <li>• Create a walking trail linking farm stands, CISA farms and local working landscapes.</li> </ul>	Conservation Department Planning Department Conservation Commission LSSE Commission	intermediate
	<ul style="list-style-type: none"> <li>• Educate and assist local producers about the Farm Viability Grant program.</li> </ul>	Director of Conservation and Development Agricultural Commission	short term-intermediate
	<ul style="list-style-type: none"> <li>• Continue Farmers Forums or a similar venue where the public can learn firsthand what it means to pursue an agricultural livelihood.</li> </ul>	Agricultural Commission	short term
	<ul style="list-style-type: none"> <li>• Encourage development of Community Gardens as a way to educate public about the value of locally grown products and to use as an interpretive tool to relate to the agricultural history of the community.</li> </ul>	Agricultural Commission Conservation Commission	intermediate-long term



## Section 9. Seven-year Action Plan

Goal 7. Increase land area available for active recreation in Amherst.			
Objectives	Actions	Responsible Party	Completion Timeline
Inventory and assess existing facilities and recreation programs.	• Coordinate programmatic elements and activities between departments (Planning, LSSE, DPW).	LSSE Department Planning Department Department of Public Works Director of Conservation and Development	short term
	• Develop baseline reports for school fields and all town-owned properties.	Conservation Department Conservation Commission	short term
	• Use National Standards and trends, and town by town comparisons, to evaluate town facilities.	LSSE Department	short term
	• Document needs and existing deficiencies in current programs.	LSSE Department	short term-intermediate
Identify and prioritize all parcels within the recreation priority areas in Town (See Action Plan Map).	• Develop rating matrix to evaluate viability of individual parcels for active recreation.	LSSE Department LSSE Commission Conservation Commission	short term
	• Use town's GIS database to prioritize parcels in selected areas.	Conservation Department LSSE Department Planning Department	short term-intermediate
	• Continue to seek Town funding (CPA and town meeting) to conduct feasibility studies of selected parcels.	Director of Conservation and Development Community Preservation Act Committee	ongoing
	• Develop neighborhood parks, full recreational facilities and other uses based on local demand.	Town Manager Select Board Department of Public Works LSSE Department	long term
	• Link new facilities to school complexes and existing recreational fields.	Town Manager Select Board Department of Public Works LSSE Department	long term
Develop a protocol for acquiring land for recreation.	• Develop rating matrix to evaluate viability of individual parcels for active recreation.	LSSE Department LSSE Commission Conservation Department Conservation Commission	short term
	• Coordinate an expedient review process between committees.	Town Manager Select Board Planning Board Conservation Commission	intermediate-long term
	• Educate property owners about the potential recreation value of their land with informational brochures and multimedia publications (online).	LSSE Department Conservation Department	intermediate
	• Use the GIS database to track chapter 61 lands and assign priority status for acquisition if a parcel is removed from the program.	Conservation Department Land Manager	intermediate
Reduce scheduling conflicts	• Work with colleges and university to coordinate leagues and game times.	Town Manager Director of LSSE	short-term-intermediate
	• Increase number of multi-use fields and facilities to accommodate simultaneous activities.	LSSE Department Conservation Department	intermediate-long term
	• Install lights at selected facilities to accommodate late evening games by adult users.	LSSE Department Department of Public Works	intermediate
	• Work with neighboring communities to coordinate sport clustering.	LSSE Department Director, LSSE	short term-intermediate
	• Schedule events and activities in privately owned facilities.	LSSE Department Town Manager Chamber of Commerce	long term



## Section 9.

### Seven-year Action Plan

Goal 8. Improve stewardship of conservation lands and trails.			
Objectives	Actions	Responsible Party	Completion Timeline
Use local volunteer experts and environmental science students to establish baseline ecological and trail condition assessments of each conservation area and trail system in Amherst.	• Define parameters of baseline assessment that are consistent with National Standards and serve as a template for Conservation Restriction monitoring.	Conservation Department Director of Conservation and Development Land Manager Conservation Commission	short term
	• Convert those baseline assessments to mapping on the Town's GIS system.	Conservation Department Information Technology Department Volunteers	intermediate
	• Develop conservation area and trail resource library/database to help determine and prioritize areas based on maintenance needs, usage and ecological value.	Conservation Department Conservation Commission	intermediate
Develop a Management Plan for each conservation area and trail in the community.	• Inventory and assess current land holdings.	Conservation Department Land Manager	short term
	• Research best management practices.	Land Manager	ongoing
	• Develop invasive species eradication and management plan for priority locations.	Land Manager Assistant Land Manager Seasonal Trail Staff	intermediate
	• Develop natural resource based goals for each property and conservation area.	Director of Conservation and Development Land Manager Assistant Land Manager	intermediate
Initiate new volunteer programs to help establish corps of volunteer stewards who will help oversee management of conservation areas and trails.	• Formalize partnerships with colleges and university to secure graduate student interns, classes and general help.	Director of Conservation and Development Planning Director	intermediate-long term
	• Work with schools to create age-appropriate educational brochures and materials for students and families.	School Administrators Conservation Department Planning Department	intermediate
	• Hold annual training workshops and frequent 'trail walks' to familiarize volunteers with conditions of facilities.	Land Manager Assistant Land Manager Seasonal Trail Staff	ongoing
	• Inspect facilities monthly to identify routine maintenance needs.	Land Manager Assistant Land Manager Department of Public Works	short term-long term
	• Use volunteers to undertake tasks such as the coordinated removal of invasive species, and reporting regular updates on ecological and trail conditions. These updates could include everything from recently downed trees blocking a trail to new beaver activity to flowering dates for native wildflowers to unusual bird sightings, etc.	Land Manager Assistant Land Manager Conservation Commission	short term-intermediate
	• Work with local land trusts and private organizations to help solicit help from volunteers.	Director of Conservation and Development Conservation Commission	ongoing



## Section 9. Seven-year Action Plan

Goal 8. Improve stewardship of conservation lands and trails.			
Objectives	Actions	Responsible Party	Completion Timeline
Expand public awareness of the stewardship needs of existing conservation lands, trails, and programs through outreach to the colleges, advertising and public relations.	• Work with private sector to increase donations and community support.	Town Manager Chamber of Commerce Director of Conservation and Development Conservation Department Planning Department	intermediate-long term
	• Develop and distribute educational materials to landowners regarding best management practices.	Conservation Department Planning Department Land Manager Assistant Land Manager	short term-intermediate
	• Work with schools to create age-appropriate educational brochures and materials for students and families.	School Administrators Conservation Department Planning Department	intermediate-long term
	• Place kiosks and “information stations” at strategic locations at trailheads and trail intersections.	Land Manager Assistant Land Manager Seasonal Trail Staff	short term
	• Coordinate media postings and publications with the local Regional Planning Agency and colleges and university.	Town Manager Director of Conservation and Development Conservation Department Planning Department	short term
	• Develop an online ‘bulletin board’ to post current trail conditions and facility conditions.	Information Technology Department Conservation Department	short term
Increase efforts to raise funds, private or from any source, for the maintenance improvement of trails and conservation areas.	• Partner with local land trusts and other non-profit organizations to increase donations for the maintenance of preserved lands.	Conservation Department	ongoing
	• Research grant programs that allow for creative partnerships as fulfilling match requirements.	Conservation Department Planning Department	ongoing
	• Explore the use of fees and permits at conservation areas.	Conservation Department Town Manager	short term-intermediate
	• Make use of Community Preservation Act (CPA) funds to leverage donations for the purpose of maintaining the most widely used trails.	Conservation Department Community Preservation Act Committee Town Meeting	ongoing



## **Public comments**

Public comments were received from a variety of sources while developing this plan, including: public meetings, at which participants selected priority areas by placing dots on a map of Amherst, discussions in the OSRP master plan workgroup, and weekly meetings between conservation, agriculture, and recreation staff members.

Specific comments from public meetings and workshops were recorded and are reflected in this plan. Excerpts from those public forums include:

### ***Summary of Public Comments during Planning Process***

- ❖ We need to think about not just parcels specifically, but improvements to existing parcels.
- ❖ Important to establish relationships with private land owners, in terms of trails.
- ❖ Town deficiency specifically is facilities for team sports.
- ❖ It's not just providing the field, but the quality of the field.
- ❖ Recreation fields are overused.
- ❖ People have to be turned away from team sports and activities, from lack of fields and facilities.
- ❖ The University's recreational field inventory is shrinking. The University also must look at bringing in rental fees for their fields in a more vigorous way.
- ❖ Establish connections between trails.
- ❖ Encourage the conservation of farmland and the viability of the farm community.
- ❖ Amherst is a regional center and needs more recreation areas.
- ❖ Need proper signage and publicity for specific areas.



## ***Summary of Public Comments on Draft Plan***

## **Section 10. Public Comments**

- ❖ Atkins Corner is a busy intersection and needs pedestrian crosswalks and pathways that help people safely cross Route 116, especially after the two new rotaries are constructed. It would be worthwhile to investigate whether off-road pathways could be established, such as using the Old Trolley line heading south over the Mount Holyoke Range and heading north to connect with the Hampshire College Trail.
- ❖ Investigate possibility of developing a program in which the Town and landowners work together to identify areas of recreational priority. The few play fields and parks are heavily used by organized sports leagues and teams.
- ❖ Emphasize that large contiguous block of land, including farmland, are also basic building blocks of wildlife corridors. The Town has intact corridors along the Mount Holyoke Range, through Lawrence Swamp into East Amherst and Shutesbury and Pelham, and along the Mill River/ Cushman Brook Corridor, and needs to work to protect these networks of open space from the impacts of development.
- ❖ College and university students use Town fields and parks for informal gatherings and activities, and for more formalized sports.
- ❖ Puffers Pond suffers from overuse and needs a management plan that resolves apparent conflicts between conservation and recreation.
- ❖ There are two distinct school systems in Amherst: the regional school district and town-owned schools. These two entities regulate play fields separately, with the regional school district restricting summer baseball leagues from using the fields for instance.
- ❖ There is a need in the community to link parks and conservation areas to schools and neighborhoods by expanding the trails and preserved land.
- ❖ The existing parks and facilities require regular maintenance and upkeep, and would benefit from a Parks & Recreation Department dedicated to work on the trails, parks and facilities in Amherst.
- ❖ Community could benefit from an updated survey of recreational facilities to assess user groups, physical condition of the facilities, and help project future needs.
- ❖ Amherst could investigate whether a regional approach to recreation and conservation could be formalized with neighboring communities.





## Section 10. Public Comments

- ❖ The Town could research macro-policy issues such as zoning and codification of land use regulations that would better protect open space and improve ability to expand recreational opportunities.
- ❖ Much of Amherst consists of tax-exempt property and creative resolutions need to be considered that would help these lands contribute to the Town.
- ❖ Town could consider working with large apartment complexes to help reestablish parks and small facilities that were once offered at these private locations.
- ❖ To help ‘active programming’ of events in the community, especially at recreational fields and conservation areas, online maps on the Town’s website could be linked to a calendar of events. Residents could then click on a park or area of town to learn about planned events and activities.

### ***Review Letters***

(See scanned review letters on the following pages)

- ❖ Select Board
- ❖ Planning Board
- ❖ Pioneer Valley Planning Commission
- ❖ Conservation Commission
- ❖ Leisure Services and Supplemental Education Commission



## Section 10. Public Comments

Town of



AMHERST Massachusetts

TOWN HALL  
4 BOLTWOOD AVENUE  
AMHERST, MA 01002

SELECT BOARD  
Phone (413) 259-3001  
FAX (413) 259-2405  
Email: [selectboard@amherstma.gov](mailto:selectboard@amherstma.gov)

June 2, 2009

Ms. Melissa Cryan  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114

Dear Ms. Cryan,

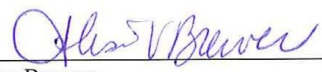
The Amherst Select Board enthusiastically supports the Open Space and Recreation Plan. This document expresses our community's values and goals, and provides a framework to help us plan for the future.

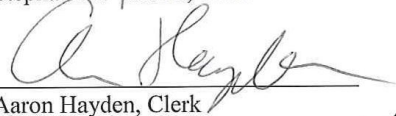
Considerable public input and expertise have informed the creation of this plan. While individuals may differ on some of its specifics, the broad strokes capture Amherst's shared priorities for land conservation, agricultural preservation and outdoor recreation. A key element is the emphasis on analyzing land use demands in order to achieve appropriate balance among them.

We hope you will approve this plan.

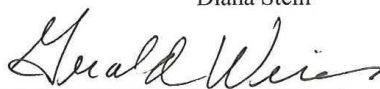
Sincerely,

  
Stephanie O'Keeffe, Chair

  
Alisa Brewer

  
Aaron Hayden, Clerk

  
Diana Stein

  
Gerald Weiss



## Section 10. Public Comments

*Town of*



AMHERST

*Massachusetts*

TOWN HALL  
4 Boltwood Avenue  
Amherst, MA 01002-2351

PLANNING BOARD  
(413) 259-3040  
(413) 259-2410 [Fax]  
[planning@amherstma.gov](mailto:planning@amherstma.gov)

June 4, 2009

Melissa Cryan  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114

Dear Ms. Cryan:

The Amherst Planning Board supports the 2009 update to the Open Space and Recreation Plan (OSRP). The Board reviewed the Plan on May 20 and June 3, 2009, and voted 6-0 to support and approve the Plan as consistent with and supportive of many of the community's planning priorities as set forth in the pending draft Amherst Master Plan.

In particular, the OSRP public process and update development have been coordinated with Amherst's master plan goals and objectives with regard to land use, natural & cultural resources, and open space and recreation. Amherst has a long tradition of responsible environmental planning and action, and this update will help us carry that legacy forward through the next five years.

We urge your approval of the 2009 update to the Amherst Open Space and Recreation Plan.

Sincerely,

  
Joseph A. Siff  
Planning Board



## Section 10. Public Comments

June 10, 2009

Stephanie O'Keeffe, Chair  
Board of Selectmen  
4 Boltwood Avenue  
Amherst, MA 01002



Timothy W. Brennan, Executive Director

Reference: Open Space and Recreation Plan, March 2009

Dear Ms. O'Keeffe:

The Pioneer Valley Planning Commission (PVPC) has reviewed the Town of Amherst's Draft Open Space and Recreation Plan (March 2009) and is pleased to note that the plan is consistent with regional goals for recreation and open space protection. The Town of Amherst has long recognized the importance of land protection for preserving the aesthetic, economic, and cultural well-being of the community. Amherst's network of protected farmland, conservation land and recreational trails serves the community and the region well as model for integrating land preservation into the fabric of community planning.

The plan notes that after decades of acquisition of critical open space, the community is experiencing a shift toward emphasizing appropriate stewardship and management of these areas, many of which are heavily used. Stewardship and maintenance of public lands and recreational facilities is often a challenge for most municipalities due to the level of funding and staff needed for these endeavors. These efforts also require coordination with multiple town departments and a core of dedicated citizen volunteers.

Overall the plan meets the Massachusetts Department of Conservation Service's guidelines for an Open Space and Recreation Plan. Many of the plans stated goals, objectives and actions will not be achievable without continued grant funding from state and federal agencies. The PVPC will continue to work with the Town of Amherst to implement the Five-Year Action Plan and secure grants when opportunities arise.

Sincerely,

Timothy W. Brennan  
Executive Director

cc: Richard Howland, PVPC Commissioner  
Johnathon Tucker, Director, Planning Department

Pioneer Valley Planning Commission 26 Central Street, Suite 34, West Springfield, MA 01089-2753  
phone 413.781.6045 fax 413.732.2593 TTY 413.781.7168 www.pvpc.org



Section 10.  
Public  
Comments



AMHERST Massachusetts

Linda L. Chalfant  
Director

June 2, 2009

DEPARTMENT OF LEISURE SERVICES & SUPPLEMENTAL EDUCATION  
70 BOLTWOOD WALK • AMHERST, MA 01002  
413-259-3065 FAX 413-259-2407

Melissa Cryan  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114

Dear Ms. Cryan:

It is with much pleasure that the Amherst Leisure Services and Supplemental Education Commission endorses the 2009 update to the Open Space and Recreation Plan. The Commission voted unanimously (5-0) on June 2, 2009 to approve the Plan as it addresses many local concerns with its newly updated goals, objectives and implementation strategies.

Town staff and departments have done a very thorough job and the Plan appears fully compliant with the State's standards. The Town of Amherst will be well served by having a State approved update of their Open Space and Recreation Plan, as it will augment the community's ability to protect critical resource areas, acquire much need recreational land, and maintain existing preserved lands and facilities. The Plan provides a solid, rational framework that will guide future actions by the Town of Amherst.

We strongly support the 2009 update to the Open Space and Recreation Plan.

Respectfully,

Leisure Services and Supplemental Education Commission

*Stanley B. Ziemer* *Pete R. Blue*  
*[Signature]*  
*[Signature]*  
*[Signature]*

**"Leading the Way in Recreation and Lifelong Learning"**

[www.amherstma.gov](http://www.amherstma.gov)





Section 10.  
Public  
Comments

Town of



AMHERST

Massachusetts

TOWN HALL  
4 Boltwood Avenue  
Amherst, MA 01002-2351

Conservation Department  
(413) 259-3045  
(413) 259-2410 [Fax]  
[conservation@amherstma.gov](mailto:conservation@amherstma.gov)

May 27, 2009

Melissa Cryan  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114

Dear Ms. Cryan:

It is with great pleasure that the Amherst Conservation Commission endorses the 2009 update to the Open Space and Recreation Plan. The Commission voted unanimously (5-0) on May 5, 2009 to approve the Plan as it addresses many local concerns with its newly updated goals, objectives and implementation strategies.

Town staff and departments have done a very thorough job and the Plan appears fully compliant with the State's standards. The Town of Amherst will be well served by having a State approved update of their Open Space and Recreation Plan, as it will augment the community's ability to protect critical resource areas, acquire much needed recreation land, and maintain existing preserved lands and facilities. The plan provides a solid, rational framework that will guide future actions by the Town of Amherst.

We strongly support the 2009 update to the Open Space and Recreation Plan.

Respectfully,

Conservation Commission



## References

- Amherst Build-out Analysis & Future Growth Study. October, 2002.
- Amherst Preservation Plan. Town of Amherst Historical Commission. April, 2005.
- Cape Cod Commission Regional Policy Plan for Barnstable County, 1996.
- City of Northampton Open Space and Recreation Plan: 2005-2010.
- Department of Conservation and Recreation. Areas of Critical Environmental Concern Program. <http://www.mass.gov/dcr/stewardship/acec/index.htm>. 2007
- Department of Conservation and Recreation. Mount Holyoke Range State Park. <http://mass.gov/dcr/parks/central/hksp.htm>. 2007.
- MassWildlife. Massachusetts Division of Fisheries & Wildlife. Natural Heritage and Endangered Species Program. [http://www.mass.gov/dfwele/dfw/dfw\\_toc.htm](http://www.mass.gov/dfwele/dfw/dfw_toc.htm). 2007.
- Rare Species by Town. MESA (Massachusetts Endangered Species Act) and Federal Status [http://www.mass.gov/dfwele/dfw/nhesp/species\\_info/town\\_lists/town\\_a.htm#](http://www.mass.gov/dfwele/dfw/nhesp/species_info/town_lists/town_a.htm#) to May, 2007.
- Draft Master Plan for the Town of Amherst, Massachusetts. August, 2007.
- Natural Resources Conservation Services. <http://www.nrcs.usda.gov>. 2007.
- Planning Amherst Together. Town of Amherst Master Planning process. <http://www.planningamhersttogether.org/index.htm>. 2007
- The Open Space Planner's Workbook. <http://www.mass.gov/envir/dcs/pdf/OpenSpacePlanners.pdf>. 2007.
- Town of Amherst Community Profile. The Official Website of the Commonwealth of Massachusetts, <http://www.mass.gov/dhcd/iprofile/008.pdf>. 2007.
- Town of Amherst Conservation Department web site. <http://www.amherstma.gov>. 2005.
- Town of Amherst Data Book. Amherst Planning Department. 2002.





## Section 11. References

Town of Amherst Draft Open Space and Recreation Plan, July 31, 1995.

Town of Framingham Open Space and Recreation Plan, 2003.

